The Journal of the American Medical Association

VOL. XXVIII. CHICAGO, ILL., APRIL 24, 1897. No. 17.

ORIGINAL ARTICLES.

THE OCCURRENCE OF SUGAR IN THE URINE; ITS CLASSIFICATION, ETIOLOGY AND PATHOLOGY.

NUMBER I.

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The term diabetes mellitus is usually indiscriminately applied to a disease prominently characterized by an excess of sugar in the blood and by the occurrence of this body in the urine in varying amounts, this condition persisting over a greater or less length of time.

The occurrence of sugar in the urine may be primarily divided into the physiologic and the pathologic, the former being again separated into two classes: 1. That condition in which, as ordinarily found in health, the quantity of sugar present in the urine is too small to be detected by the usual clinical, tests as by Fehling's solution, by fermentation, etc. That a certain amount is, however, normally present in health has been repeatedly demonstrated by the more delicate gravimetric method, so that the increased amount of sugar often found in a urine may be simply due to the increased activity of a perfectly physiologic process, which under certain abnormal conditions, may become pathologic. 2. Those cases, much more numerous than usually supposed, the urines of which will be found to contain sugar in such increased amounts as to be appreciable by the common clinical tests. This condition may extend over a considerable period, perhaps many years, the patient in the meanwhile continuing in perfect health and the katabolic processes, to which the term diabetes mellitus is only to be applied, never ensuing. In such a patient the ingestion of carbohydrates does not in the least affect the excretion of sugar. The pathologic division is also to be separated into two main classes, glycosuria and diabetes mellitus proper.

Glycosuria, by which is to be understood a temporary increase, as the result of certain abnormal conditions, in the quantity of sugar present in the urine; this sugar disappearing on the removal of the etiologic factors is to be classified as follows:

1. Nervous glycosuria, induced by prolonged and excessive emotions, by great nervous excitement or depression or by brain exhaustion. Thus it may be consequent to overstudy, excessive venery, fright, anxiety or grief. This condition has been well shown by Cohnheim in the lower animals by simply tying them down to a board, the terror and excitement being followed by the presence of sugar in the urine.

2. Febrile, as when sugar tests are obtained during or immediately following many pathologic processes, such as acute fevers or phthisis.

3. Traumatic.—Sugar is observed in urines passed soon after injuries affecting the cranium and its contents, such as hemorrhages into the brain substance, fractures of the tables, blows producing unconsciousness, etc. It may continue during inflammatory conditions of the brain or its meninges. Experimentally, it may be shown by the well-known "puncture of the fourth ventricle." Glycosuria also frequently follows any severe traumatism even if it be unassociated with cranial injury. Its occurrence in such a case is probably due to similar influences to those which induce the condition recognized as "shock."

4. Toxic.—Glycosuria may be produced by the action of many chemical and medicinal bodies, as curare or phloridzin, by the administration of anesthetics, etc. It is probably caused by the depressing and paralyzing effect of the drugs upon the peripheral and central nervous system.

5. Dietetic glycosuria is induced in some individuals by excesses of diet, more especially by the inordinate use of carbohydrates but also by the use of alcohol particularly in the form of the dry wines. It is caused in the first instance, by the sudden entrance into the system of more sugar than the organism is able to burn or store up in a given time with the consequent appearance of the unburned portion in the urine. In the second case, the toxic action of the alcohol on the nervous system may be considered as the cause.

6. The glycosuria of lactation immediately precedes the secretion of milk in the puerperal woman. It disappears on the flow becoming established to again appear if the quantity of milk produced is in excess of its consumption. It is, without a doubt, due to a reabsorption of the milk-sugar.

Glycosuria, then, is a transient affection depending on the presence of certain exciting conditions, the removal of which is at once followed by a return to the normal. It has no more clinical importance than has a slight variation of temperature except as its presence may temporarily give rise to apprehensions of a true diabetes.

Diabetes mellitus proper is a disease depending upon deep-seated nervous processes which can not be traced to any known cause and which are not followed by any constant anatomic changes. It is to be considered purely as a neurosis, and may be divided, clinically, under the following heads.

1. The mild form, in which the sugar excreted is consequent upon the ingestion of carbohydrates and in which, on a return to carbohydrates from a strictly proteid diet, the temporarily latent dyscrasia reasserts itself. An individual, therefore, under certain artificial conditions of diet may temporarily excrete no sugar without the abnormal systemic processes, to which alone the name diabetes should be applied, becoming cured. This stage is accompanied by comparatively little body waste and trivial nervous symptoms. Sooner or later it becomes the—

2. Severe form, in which, on a rigid proteid diet, a large sugar excretion persists as a result of the split-

ting off of the carbohydrate radical from the ingested and systemic albumins. In this stage there is great and progressive body waste with muscular weakness. There is also a great liability to coma, induced by the action of the toxic bodies resulting as by-products in the cleavage of the albumin molecule.

The cerebral and nervous symptoms are strongly marked, while the excessive tissue waste predisposes to a fatal termination by asthenia or by the inception of an intercurrent affection. It will be observed from the foregoing that it is believed that glycosuria and diabetes are two entirely distinct affections, having but a single symptom in common—and that symptom, as will be shown in a subsequent article, attributable to entirely different causes. The occurrence of sugar in the urines of both glycosuria and diabetes is no more presumptive evidence of the identity of the diseases than would the febrile movement in scarlatina and uremia prove them like affections. It is simply a prominent symptom common to both, but a symptom which in true diabetes is only of secondary clinical importance outside its value in diagnosis. The gravity of a diabetes can not be estimated in the percentage of glucose excreted as the sugar output may vary or even entirely disappear under artificial conditions without the true pathologic processes of diabetes being in the least influenced.

In its etiology, diabetes mellitus occurs so frequently in families having a general tendency toward neuroses of various types that its inception seems to be favored by an hereditary predisposition not necessarily to the diabetes itself but to other affections of the nervous system as neuralgia, hysteria and various psychoses.

Diabetes is much more liable to occur during the time of greatest nervous activity. This is to be explained by the greater mental strain of that period and by the higher development of the nervous system, which at the extremes of life, is undergoing evolution and involution. That diabetes is never caused by organic disease of the stomach and liver, will be agreed by nearly all modern pathologists. After death the quantity of glycogen present in the liver has been found to be normal, the production of glycogen not appearing to be greatly affected by the disease. According to Cohnheim, the amount of sugar excreted in certain cases appears far too large to be accounted for by liver glycogen alone. The glycogen stored up in other parts of the body, particularly the muscles, must therefore be called upon and it may perhaps be an intermediate product in the production of sugar in the decomposition of the albumins. The liver, however, plays but a minor role in the essential phenomena of diabetes. Even if the liver glycogen be referred to as the source of the excreted sugar, upon what basis is the excessive tissue waste and abnormal metabolism to be explained? The mere presence of sugar in the blood can not induce the marked clinical symptoms of diabetes, else the same effects would also occur in glycosuria, in which the excretion of sugar may for a time be larger than in a case of true diabetes. The cause should be sought deeper. Either there is such a condition of mal-nutrition induced that the processes of anabolism and katabolism no longer balance one another, or there is an abnormal breaking down of the body albumin. That this albumin decomposition occurs has been demonstrated by Voit and Pettenkofer by showing that the amount of urea excreted on a known diet, in diabetes, considerably exceeds the quantity which could be produced from the nitrogen of the ingested foods. That the diabetic has, to a greater or less extent, lost the power of burning blood sugar is also true. Voit and Pettenkofer have shown that in this disease less oxygen is taken in than by the healthy system and that the quantity of CO_2 excreted is less than normal, in some cases being but a third that of health.

The importance of pancreatic disease in the occurrence of sugar in the urine has been strongly urged. Minkowski was able to produce diabetes in dogs by extirpation of the pancreas, but found that this disease did not ensue if a small portion of the gland was left *in situ* or transplanted to some other part of the body. This result has been confirmed by other observers. Unfortunately for the theory that diabetes is entirely dependent upon disease of the pancreas, only relatively few of the undoubted cases of diabetes examined *postmortem* show any pancreatic lesions whatever, while in many other instances in which the function of the gland was entirely destroyed by cancer or otherwise no diabetes ever ensued. He believes that a ferment produced by the gland is the great factor in the combustion of sugar, but what this ferment is he is unable to demonstrate. Lepine has also shown that a sugar solution on being treated with pancreatic juice loses a certain proportion of its sugar in the form of water and carbon dioxid. To offset this, in all idiopathic cases of diabetes, the administration of the pancreatic gland cooked or raw, fresh or in the form of various extracts, by stomach or subcutaneously, has so far been absolutely without influence either upon the sugar excretion or the progress of the disease itself. It is said, however, that in animals suffering with diabetes as a result of extirpation of the pancreas the administration of either the gland or its extracts will produce a temporary removal or amelioration of symptoms.

Cohnheim refers the excessive thirst to a morbid nervous condition manifesting itself especially in the nerve supply of the mouth, pharynx and alimentary tract and believes that the diabetic does not drink because he micturates but micturates because he drinks. He does not admit the polyuria to be due to the presence of sugar in the urine but attributes polyuria in diabetes mellitus to the same causes which prevail in diabetes insipidus. The disease may then be defined as follows.

Diabetes is a disease characterized by and dangerous on account of an excessive tissue-waste and systemic katabolism, excessive thirst, and the appearance of sugar in the urine being also diagnostic but of less clinical importance. In all its symptoms it is the result of a generally depressed nervous system acting through the inhibitory centers which normally control and retard these tissue changes. There are two causes which coöperate in diabetes to produce the presence of sugar in the urine in excessive amounts, an increased production and a diminished oxidation. Unlike glycosuria this disease is not dependent upon the constant presence of a certain irritant condition nor does it disappear under varying conditions of diet.

In its pathology it is agreed by nearly all authorities that there are no constant anatomic changes which can be observed in the diabetic organism after death. The liver, generally of a dusky hue, may be large, small or of normal size; anemic, hyperemic or of normal vascularity, the hepatic cells being fatty, atrophic or normal. Rarely an occlusion of the portal vein has been observed. Cirrhosis and phosphorus

poisoning do not cause and are not followed by diabetes even if carbohydrates in considerable amount are administered. The amount of glycogen may be either normal or slightly decreased. A diminution of fat in the liver, together with amyloid degeneration, has been observed in many cases. Abscesses may be present. The pancreas has so frequently been found affected that it has been claimed that nearly half of all cases of diabetes are associated with pancreatic disease. This is probably somewhat too high an estimate. The most frequent of the pathologic changes in the pancreas are carcinoma, generally secondary, and atrophy, accompanied by a fatty degeneration of the gland cells.

This degeneration may be induced by carcinoma, formation of calculi and by obstruction of the efferent ducts, leading to a cystic dilatation in the body of the gland. Sometimes the wasting of the gland has progressed so far that no remnants of the parenchyma can be discovered. The co-existence of diabetes and disease of the pancreas may depend upon lesions of the celiac plexus, especially since it has been experimentally shown that a diabetes can be readily produced in dogs by prolonged irritation of this plexus. In such a case a disease, such as cancer, starting from the pancreas may encroach upon and implicate the plexus to such a degree as to destroy the ganglia and so produce a diabetes, or, the plexus is first affected and in consequence the circulatory disturbances, which arise in the regions supplied by the celiac axis may result in the degeneration and atrophy of the pancreas. Diabetes complicated by pancreatic disease is thought to run an unusually rapid course.

The kidneys, which usually show slight pathologic changes, are generally very large and of soft consistence, a state of things which should be considered as a functional hypertrophy. A glycogenic or hyaline degeneration of the epithelial cells lining the loop tubules of Henle is said to be a constant change; and hyaline degeneration of the arterioles has been frequently observed. These changes are, however, probably secondary. There are rarely any changes in the spleen. It has been described as enlarged, firm and rich in blood. The stomach usually presents the appearance of a chronic catarrh, thickening of the muscular and mucous coats, slaty pigmentation and hemorrhagic erosions. The stomach contents possess a sweet, ethereal odor. Dysenteric ulcers are frequently observed in the intestines.

Changes in the central nervous system are often found. There may be tumors in, or pressing upon, the brain substance or there may be more or less marked sclerosis of the medulla and cerebellum. A lesion which has been claimed as constant is a dilatation of the arteries and perivascular spaces in various parts of the brain and spinal cord, especially in the medulla and pons. Small capillary hemorrhages of more or less recent occurrence and minute myelitic foci can often be observed. With regard to the spinal cord no satisfactory conclusions have been reached. Both softening and sclerosis may take place. A striking but rather infrequent change is a dilatation of the central canal in the lumbar and dorsal portions, accompanied by a great proliferation of the lining epithelium.

Changes are found in the sympathetic system, more especially in the abdominal plexuses. Thickening, induration, atrophy of the ganglion cells and great pigmentation have frequently been observed in the celiac plexus. Tumors implicating the vagi have been found in several cases. Several observers have noticed that the blood during, or previous to, an attack of coma is much thicker and more viscid than normal. This is probably due to the withdrawal of the fluid constituents of the blood as a result of the increased functional activity of the kidneys. The blood of the diabetic often appears yellowish on account of the excessive amount of fats present. The presence of a body which yields or gives the reactions of acetone has been frequently demonstrated. Sugar appears to be present in nearly all organs, secretions and exudations. Glycogen has been found in the brain, inflamed pia mater, inflamed lung, testis and spleen. Since its presence in health, however, has also been satisfactorily demonstrated, only a quantitative determination would be of value, but this exact estimation would be practically impossible on account of the great rapidity with which glycogen is converted into sugar after death. The fact that glycogen is present in the diabetic liver in apparently normal amount shows that the power of manufacturing glycogen is not lost in diabetes.

In view, then, of the many and varied changes which may or may not be found postmortem in the diabetic, it will readily be admitted that both gross and microscopic pathology have utterly failed to furnish any anatomic basis upon which either the occurrence or phenomena of diabetes can be explained. As has already been stated, it must be considered as purely functional in character and classed among the neuroses.

SURGERY OF THE KIDNEY.

BEING A STUDY OF A SERIES OF CASES IN WHICH METHODS OF DIAGNOSIS AND TREATMENT ARE ILLUSTRATED.

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CONGENITAL ERRORS IN THE DEVELOPMENT OF THE KIDNEYS AND THEIR ADNEXA.

There are many errors in the development of the kidneys which are of great surgical and pathologic interest. Most of these errors are easily explainable by the remarkable evolutions which attend the development of the urinary apparatus. If any one doubts the utility of a careful study of this subject, let him contemplate the feelings of the surgeon who has removed the only kidney a patient possessed, or of one who has explored the loin and found no kidney below the supra-renal capsule.

Congenital errors in the development of the kidney occur with about the same frequency as do malformations elsewhere in the body. In 13,478 autopsies, one kidney was entirely absent in 4 cases, and atrophic in 59 cases. Klebs places the ratio of the absence of the right kidney to that of the left as 7:2, while Beumer thinks there is no difference in frequency.

The malformations of the kidney which are macroscopic in kind are logically separated into *a*, anomalies in form or size and, *b*, anomalies of position. The normal size, form and position can be learned from any text-book of anatomy.

1. Absence of both kidneys.—Only in non-viable children are both kidneys absent. This malformation is usually accompanied by defects in the abdom-

inal wall, in the wall of the thorax or in the cranium and its contents. Acephalus and anencephalous monsters are often without kidneys. In some cases where the head and thorax are perfectly developed the pelvis and lower extremities are deformed and the kidneys entirely absent. Béclard considers the development of the kidneys related to the development of the lumbar vertebral segments and therefore to the development of the lumbar vertebræ and cord. Meyer of Bonn, describes the following stillborn child, which is a case illustrating this connection of development.

The lower extremities were contracted and the toes were rudimentary. The external genitals and the rectum were absent, and the anus opened into a small skin-covered sack. The intestine ended at the descending colon in a blind sack. The kidneys were both absent and the adrenals (supra-renal bodies) both twice the normal size. Both renal arteries were absent, as well as both ureters and the bladder and urethra. Near the adrenals were the small testicles and their epididymus. All the other abdominal and the thoracic organs were normally developed. The spinal cord ended at the twelfth dorsal vertebra. The coccyx and the lowest sacral vertebra were absent. The skull was unusually fattened from the forehead to the occiput. In the right eye there was a congenital cataract. The brain was much compressed and its cortex was almost as hard as cartilage.

A curious report was made by Moulon of Trieste, of a postmortem examination of a girl fourteen years old, who discharged her urine through an umbilicus just above the symphysis pubis. Moulon could find no kidney at all and he concluded that the urine was secreted by the umbilical vein! In commenting on this slovenly observation, Rayer concludes that it was a case of ectopy of the bladder in which the kidneys or kidney was overlooked.

Occasionally in unviable children both kidneys and the urinary bladder have been found but wholly unconnected on account of the complete absence of the two ureters. Such an observation was recently reported by Friderici.

2. Complete absence of one kidney.—The absence of one kidney arises either from the suppression of one kidney matrix or anlage, or by the coalescence of the two matrices with one another. Morris calls the former condition the unsymmetrical kidney and the latter the solitary kidney. He also makes another distinction when one kidney is represented by some remnant. This he calls the atrophied kidney. It would really seem better to call that kidney a solitary kidney which is formed from a single matrix and of normal proportion and parts, the other kidney being absent; and to call that kidney a coalesced kidney which is formed by the union of two matrices, having more than one artery or vein, or ureter. These anomalies are consistent with life.

The complete abscence of one kidney is usually accompanied by the absence or defective development of the ureter, the seminal vesicles, the cord and the testicle on the same side or in women of corresponding sexual organs. The supra-renal body does not usually share in these defects, but is present and even enlarged where the kidney is absent. Morris found it absent in one out of ten cases where the kidney was absent. The solitary kidney (the unsymmetrical kidney of Morris) is usually hypertrophied, is larger and heavier than normal, and is sometimes supplied with accessory arteries, veins or ureters; but occasionally the solitary kidney is smaller even than the normal. One such case at least has been reported by Wrisburg, in whose patient the skin took on the function of the kidney and the perspiration had a urinous odor (Haller's "Physiology").

We do not yet know just how radical the hypertrophy of the solitary kidney is. Some investigators hold that the absolute number of glomeruli is greatly increased, even doubled, while others have not been able to verify this observation.

We do not know yet whether the solitary kidney is more or less liable to disease than one of a pair of kindneys. It certainly would seem *a priori* that it is no advantage to a patient to have a solitary kidney.

The following interesting cases may be useful in getting an idea of this malformation:

Chaffrey, W. C.—Solitary kidney. (Transactions of the Pathological Society of London. Vol. 36, 1885.) In a boy five and a half years old, dead of tuberculosis, the normal left kidney was normally placed, but the right kidney was entirely absent. This kidney was 4⅜ inches long, 1⅝ inches broad and weighed 4⅜ ounces. The ureter had a diameter of ⅜ of an inch. It traversed the wall of the bladder less obliquely than usual and opened near the middle line by a slit-like aperture.

Prudden, T. Mitchell.—Congenital absence of left kidney, (N. Y. *Medical Record*, Vol. 29, p. 314.) The man died of tuberculosis of the lungs and tubercular meningitis. There had been no renal disease. At the postmortem, the left supra-renal gland was found in about its normal size and position, but there was no left kidney or ureter or renal artery to go with it. The right kidney was slightly larger than normal.

FIG. 1.—The left kidney in its fetal condition. (Kuster.)

Wood, J. W.—Absence of one kidney and carcinoma of the other. (N. Y. *Medical Record*, Vol. 29, p. 625.) A little girl three months old died after suppression of urine for five days. At the autopsy, the left kidney was absent, and the righ was at large mass adherent to the intestines all about and cancerous. It was five inches long. The ureter was seven inches long and greatly dilated.

This might have been a case of epithelioma growing out of a matrix of supra-renal body left in the kidney (Grawitz).

3. The incomplete development of one kidney.—The growth of one kidney is sometimes arrested in early fetal life. Then the ureter leads to a small pelvis to which a few urinary canals open or none at all. The renal artery is either absent or very small. The opposite kidney is hypertrophied. The atrophic condition is sometimes confined to a part of the kidney. Sometimes two or more pyramids are normal and secrete normal urine (Morris) and sometimes only one pyramid (Birch-Hirschfeld). There are also anomalies in the formation of the calices which may result from the hypertrophy of existing pyramids or the coalescence of two or more pyramids.

A common arrest of development shows itself in the so-called "fetal kidney." The kidney is then of normal size and weight, but is divided into several lobules, 5–10, as in the fetus and in the cow. These kidneys have a normal function. The divisions are

not very deep and are held together by the fibrous tissue which forms the capsule. The divisions of the fetal kidney resembles somewhat scars left from destructive disease of the cortex. It is very possible that the fetal kidney is more liable to disease than the mature organ, especially to cystic atrophy through valve formation (Fenger). It has been noticed also that fetal kidneys are prone to tubercular disease (Küster).

Wolkowitsch (1895) describes an interesting case of rudimentary kidney in a surgical case. The patient was a man 49 years old with a pyuria six months after typhoid, for which the left kidney was examined by lumbar incision. There was an abscess

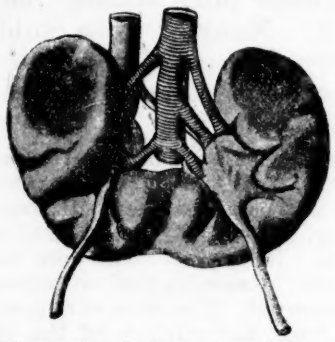

FIG. 2.—A typical horseshoe kidney viewed from before. From the Marburg collection. (Kuster.)

in the lower end as large as an apple which was opened and drained. The abscess was thought to be tubercular. The upper pole of the kidney was also opened. The patient died of uremia on the twelfth day. At the autopsy the large left kidney was found full of small abscesses. The right kidney was rudimentary, 4 cm. long, cystic and suppurating. The right ureter was impervious except the last 2 cm., where it opened into the bladder. Both vasa deferentia ended 20 cm. from the bladder, blind behind the peritoneum. The right seminal vesicle was absent and the left small and empty. The right testicle was small.

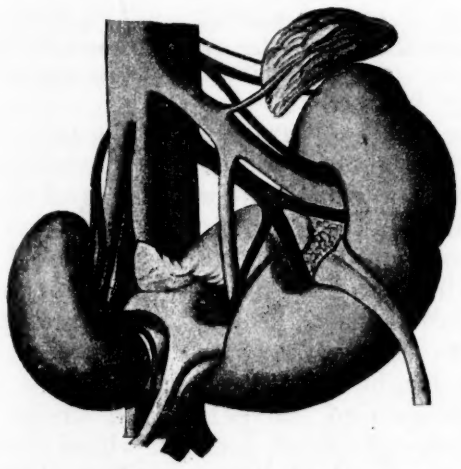

FIG. 3.—An irregular horseshoe kidney from the Marburg collection. Notice the right ureter. (Kuster.)

4. Supernumerary kidneys.—Such a thing as a supernumerary normally formed kidney is still a matter of tradition or speculation. Depage describes such a case. A tumor in the abdomen was removed and found to be a kidney. The two normal kidneys were found in the normal locations. The right one was so movable that it was sewed back in place. The older authors have reported similar cases, but no specimens are, so far as I know, at hand to support these observations. The possibility of a teratoma kidney-like in structure without function should not be forgotten in considering Depage's case.

5. Coalesced kidneys or horse-shoe kidney.—This is the most common of all congenital malformations of the kidneys. It occurs once in about 1,000 autopsies. It presents itself typically in a blending together of the lower poles of the two normally placed kidneys, making one large horse-shoe shaped organ. The accompanying drawing is from a specimen in the museum at Marburg.

Very rarely the union between the two kidneys takes place through the blending of the upper poles,

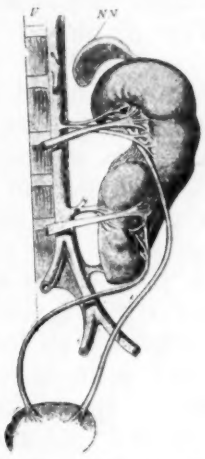

FIG. 4.—A sigmoid kidney. The right and left kidneys united by their lateral borders. (Brösike after Kuster.)

making the kidney concave downward. The ureters are frequently more than two. The blood vessels are also more numerous than normal. The union of the two kidneys is sometimes only fibrous. Such a case

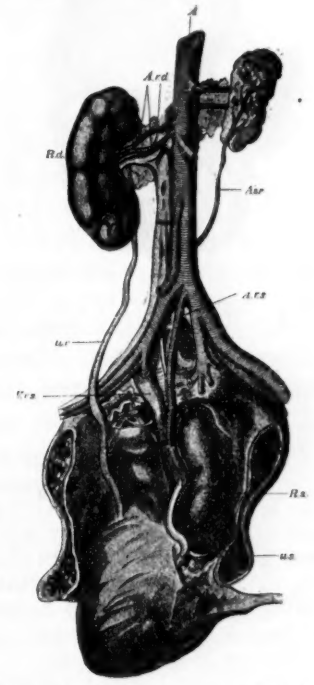

FIG. 5.—Congenital displacement of left kidney in left pelvis. (Rayer.) A, aorta; A.r.d., the double artery of the right kidney; R.d., the right kidney; u.r., the right ureter; V.r.s., the left renal vein; Asr, the left adrenal artery; A.r.s., the left renal artery; R.s., the left kidney; u.s., the short left ureter.

is to be found in Report of Guy's Hospital, 1880, and frequently elsewhere in the literature of medicine. The two kidneys are sometimes united into a long kidney lying on one side of the spine. *Ren sigmoideus* or *ren elongatus simplex.* And again they are united into irregular masses. These peculiar combinations have received many descriptive names. *Ren scutaneus, ren informis,* etc.

Freund (*Arch. f. Gyn.*, Vol. 8, p. 538) found in an old woman with absence of the uterus, a tumor which he recognized through the vagina as a horse-shoe kidney. The diagnosis was made more certain by the

absence of the kidneys from their normal positions. The abdomen was so lax that they could have been easily felt. The hilus lay forward, which position is a rare one, remarks Freund. Out of twenty cases of horse-shoe kidneys only one lay with the hilus forward.

6. Congenitally displaced kidneys.—One or both normally formed kidneys are occasionally found congenitally displaced and so more frequently are malformed or coalesced, horse-shoe kidneys. The horse-shoe kidney is usually displaced, the united ends necessarily so. The displaced kidney is usually found in the pelvis, especially at its brim. It has a short ureter and also an unusual number of arteries coming from the adjoining trunks, the iliac, the hypogastric or the crural. In women such a displaced kidney may produce dystocia and in men it may give rise to errors of diagnosis. Runge (*Arch. f. Gyn.*, Vol. 41, p. 99) describes a case of congenitally displaced kidney which it is worth while to remember. A woman had given birth to seven children all living except the fifth which was stillborn, being a transverse presentation and artificially delivered. In the third or fourth month of the eighth pregnancy three tumors were found in the abdomen. The pregnant uterus, a tumor of the right ovary and the left kidney. The tumor of the ovary was removed by laparotomy. The kidney was found immovable on the pelvic wall,

FIG. 6.—Congenital cystic kidney of a newborn child. Two-thirds natural size. (Orth.)

the hilus upward. The child was delivered artificially with a fractured humerus. Two arteries could be felt in the kidney. Only three other cases like this are reported.

Strube, Georg.—"Ueber congenitale Lage-und Bildungs-anomalien der Nieren." (*Archiv für pathologische Anatomie und Physiologie und für klinische Medicin*, 137, p. 227.) This case presented an absence of the right kidney with the left kidney in the pelvis. It was in a patient 32 years old, who died of an acute nephritis due to laparotomy, undertaken to remove a tumor, which proved to be the movable kidney. Both supra-renal capsules were found of their normal sizes and in their normal places, with a normal blood supply. The only kidney present lay between the fourth lumbar vertebra and the second vertebra of the sacrum. It was twelve centimeters long, eight centimeters wide and four and one-half centimeters thick. It lay in the pelvis especially toward the left side, so that it covered the left iliac vessels. Its highest point was at the bifurcation of the aorta; its lowest point rested deep in the pelvis. The kidney was lobulated. The pelvis of the kidney was made up of four calices, two of them small and two of them large. The ureter was eleven centimeters long and very much dilated. It passed behind the rectum on the left side of the vertebra into the bladder. On the right side of the kidney was a piece of tissue four centimeters long by two or three centimeters wide. It showed upon examination to contain a few glomerules with a colloid mass. From this passed a cord, evidently an obliterated ureter, toward the bladder, about its normal position. The kidney was supplied by two arteries and two veins. The supra-renal artery arose one and one-half centimeters from the bifurcation of the aorta and entered the right upper part of the kidney and distributed itself by means of two branches. The lower renal artery arose from the left hypogastric and passed directly into the hilum. The renal vein emptied into the left common iliac vein.

Somewhat similar cases have been reported by Chapuis (*Lyon Médical*, 1895), Goullioud (ibid.), Fischel (*Prager med. Wochenschrift*, 1895), and the older authors referred to by them.

7. Congenital cystic kidney.—Congenital cysts of the kidney seem to be related to other malformations usually inconsistent with a viable child, so that only a few of these kidneys require surgical care. The blood supply of the cystic kidney is usually very small. The ureter remains patent, which easily distinguishes it from hydronephrosis. The cysts are sometimes of enormous size, in the fetus interfering with labor and after birth making respiration impossible or difficult. Many of these children with cystic kidney live a few days or a few weeks and then die of exhaustion; others live and come to surgical interference.

Sutton, J. Bland.—"Tumors, innocent and malignant." Philadelphia, 1893, p. 253. Sutton copies a sketch from H. Morris which is reduced and presented here. It represents a congenital cystic kidney. Some of the cortical substance is left between the cysts. In typical cases like this, the kidney is converted into cystic masses, so that on section the appearance of a sponge is presented. The cysts vary greatly in size. Some of these project from the surface of the kidney. In early stages they have a covering of epithelium which is difficult to find in advanced cases. Sometimes the renal pelvis is easily recognized, but later it becomes filled with fatty matter. The ureter is usually extremely narrow, but always pervious throughout. The blood supply in the cystic kidney is always very small. Congenital cystic kidneys sometimes attain an

FIG. 7.—Cystic Kidney. (Morris.)

enormous size, so large indeed as to seriously impede labor, and necessitate the destruction of the fetus to enable delivery to be effected. Other congenital defects are usually associated with cystic kidney.

8. Congenital malformation of the pelvis and ureter.—One of the most common malformations of the kidney, and one consistent with life and the function of the kidney, is the double or treble pelvis or ureter. It is perfectly natural to expect, in cases of lobulated or fetal kidney, to find one lobule so separate from the other lobules as to require a separate pelvis. If this occurred early in kidney development, then the ureter also might be found double. As a matter of fact, the division of the pelvis and ureter has been found in every grade of division which theory would suggest, from simple division of the pelvis to complete double ureter and double pelvis on both sides of the body. The doubling of the ureter is by no means a rare malformation. It is said to be found, more or less complete, in one out of every thirty-five post-mortems. (Böstrom.) This frequency has not been sustained by other pathologists, perhaps because they have not been careful in examining the ureter. Malformations of the pelvis and ureters are certainly very dangerous to their bearers. Double ureters are apt to become obstructed and dilated and precipitate suppurative disease. They are much more apt than single ureters to be abnormally placed in the bladder and become obstructed by valve formation. They

stand also as a constant terror to the diagnostician who would discover the competency, the health or the disease of a kidney through the act of catheterizing the ureters.

9. Malformations of the adrenals or supra-renal capsules. — Complete absence of the adrenals is observed only in cases of unviable malformation, usu-

FIG. 8.—Showing a section of a kidney with a double pelvis and two ureters for a part of the way to the bladder. (Rayer.)

ally with defects in the head. Zander has observed absence or aplasia of the adrenals in connection with malformation of the genitals in nineteen out of fifty-six cases of this malformation. Enormous development of a supra-renal capsule has been observed with the complete absence of the corresponding kidney. The two adrenals are often united into one, especially in horseshoe kidney, and occasionally they are displaced with the kidney in the pelvis.

A remarkable error is found in remnants of the supra-renal body in the substance of the kidney itself. From this displaced tissue paratheliomas of the kidney are thought to grow (Grawitz). Such displaced fragments of the adrenals have been found in the broad ligament, the posterior abdominal wall, the spermatic

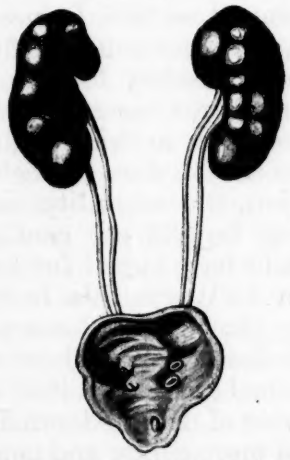

FIG. 9.—Double ureters complete on both sides. (Rayer.)

vessels (Marchand), and between the head of the epididymis ahd the testicle (Dagonet). All of these conditions are to be explained by the early association of the matrix of the spermatic apparatus with the adrenal matrix before the descent of the testicle into the scrotum. This is a subject of such clinical importance that it will be considered later at length.

THE PRESENT STATUS OF VAGINAL SECTION WITH RECORD OF PERSONAL EXPERIENCE.

BY HENRY T. BYFORD, M.D.
CHICAGO.

Much of the improvement in gynecology within the last few years has consisted in the development of vaginal section.

The pioneer in this direction is undoubtedly J. N. Sauter of Constance, Switzerland, who, according to a preconceived plan, similar to that employed at the present day, removed the carcinomatous uterus per vaginam, although K. M. Langenbeck performed the operation in 1813. Blundell did the same in 1828 and Recamier and Delpech in 1830. This ended the first act in the drama. The results were so bad that the operation was practically abandoned until revived by Czerny in 1879.

In 1872 Robert Battey, followed by J. Marion Sims and T. Gaillard Thomas, began removing ovaries and small ovarian tumors per vaginam, and was thus the pioneer in this country. Very soon, however, the success of Tait in performing abdominal section, drew the gynecological world after him, and vaginal section again fell into disfavor.

In 1886 I began removing ovaries and ovarian tumors in this way and for a long time was the only one doing it in this country. But as a result of the performance of vaginal hysterectomy for diseases of the appendages in France, and of anterior colpotomy in Germany, during the last four or five years, vaginal section for diseased uterine appendages has now become a permanently established procedure. The reports of the facility with which Péan cured, by vaginal hysterectomy, cases of pelvic inflammation that had been considered too complicated for operation by abdominal section, as well as of the battle that is still waging over the method, have reached us all. Duehrssen and Mackenrodt's operations for vaginal fixation of the uterus gave a new impetus to vaginal section for diseased appendages, for Mackenrodt and A. Martin soon began to remove the ovaries, tubes, and even the products of ectopic gestation by anterior colpotomy.

The old dictum that vaginal section is inferior in value to abdominal section for pelvic disease because the pelvic cavity is not as accessible, is only true for conditions located at the pelvic brim. To the parts below the pelvic brim vaginal section gives as good and often better access, and without disturbing the abdominal viscera. Its only disadvantage in treating conditions within the pelvic cavity is the danger of hemorrhage. But even this, the greatest danger, is no greater, in my experience, than in an abdominal section. In 161 cases of vaginal section I had difficulty from hemorrhage in two cases only, and these were cases for which vaginal section should not be employed, viz., a large uterine fibroid and a large uterine sarcoma.

The danger of infection is practically no greater than in abdominal section, for the vagina and shaved vulva can be scrubbed with green soap, alcohol and corrosive mercuric chlorid as effectively as the surface of the abdomen, and the uterus can be made clean by curettage. If septic infection takes place, the resulting inflammation is always localized, unless complicated by the rare occurrence of ileus from intestinal adhesions, or unless vaginal section be done for abdominal rather than pelvic conditions.

In illustration of the possibilities and limitations of the method and the possibility of seeing and knowing what one is doing, I will briefly state what procedures have so far been demonstrated to be practicable.

Through a vertical incision in the median line behind the cervix, half an inch long, one finger can be introduced into the peritoneal cavity and the pelvic organs be directly palpated. Through an incision from an inch to an inch and a half long in the same place, diseased uterine appendages and the products of early extrauterine pregnancy, as well as small ovarian tumors, omental tumors and small subserous fibroids on the posterior uterine walls can be removed. I have not removed a fibroid from the posterior uterine wall in this way, but have taken sutures in it for the arrest of hemorrhage due to adhesions, which practically amounts to the same thing. The cul-de-sac can be obliterated by tamponing the sutured vaginal wall against the opposite side of Douglas's pouch and retroversion often be cured. This was a frequent result in my earlier operations.

Through a transverse incision behind the cervix, beside all that which can be done through the vertical incision, the whole posterior pelvic cavity, the fundus uteri, and sometimes the appendix vermiformis can be exposed to view by long retractors that reach almost to the promontory of the sacrum. This has been repeatedly demonstrated by Prior. The sacro-uterine ligaments can be shortened by suture, or the cul-de-sac of Douglas be obliterated by excision of its peritoneal lining, or by packing it with gauze. Prior cures retroversion by the latter method. It is also possible, as I have demonstrated in one case, to extirpate the rectum considerably above the lower reflection of the peritoneum through this incision. By prolonging the incision laterally, or forward beside the uterus, moderate sized intraligamentous fibroids can be taken out either whole or by morcellement. The danger of wounding either the uterine artery or ureter can be avoided by ligaturing the former and placing a flexible bougie in the latter.

By an incision in the anterior vaginal fornix and separation of the bladder, fibroid tumors can be enucleated from the anterior uterine wall, as I have twice done; or by bisection of the anterior uterine wall they can be removed from the uterine cavity or posterior uterine wall and the uterine incision be sutured. Diseased appendages can be readily removed or drawn into the vagina, the ovaries resected, the closed tubes made pervious, and the parts be returned without bad results. The pubic peritoneum, normally lying above the collapsed bladder, can be drawn down into the vagina, and the stumps of removed appendages or the fundus uteri can be sutured to it. The round ligaments can be grasped and those portions near the internal inguinal rings can be drawn down in view and attached to the uterus, thus shortening them as much as is usually done in Alexander's operation. I have shortened the ligaments and attached the fundus or stumps over the bladder in twenty-four cases of retroversion, and have kept watch of most of them since. In but two cases that I know of has there been a return of the retroversion.

All this can be done without removing the uterus. If we remove the uterus the whole pelvic cavity is opened up to sight.

Intestinal and rectal tears can be successfully sutured. Medium sized adherent dermoid, papillary and other pelvis-bound tumors can be removed, and the beds tamponed with greater safety than by abdominal section. Septic appendages, with adhesions that would make their removal by abdominal section almost unjustifiable, can be cured by vaginal section with but little risk.

Although so much can be done by vaginal section there is danger of extending its limits too far. Péan Segond, Jacobs and others, in searching for these limits have, with consummate skill, made use of the method in cases for which it is not generally adapted and in which it can only succeed in the hand of such experts. Fibroids larger than a full term fetal head can be removed in this way, but the mortality will be greater than by abdominal section. The duration of the operation is apt to be too long and the loss of blood considerable. Fibro-sarcomas of the uterus of large size are still less suitable. Advanced carcinoma of the body of the uterus should be removed by abdominal section because metastatic deposits can be recognized and managed better. If I were to judge from a single experience, I should say that vaginal section is of but little value in tubercular peritonitis. I removed the tubercular tubes in a case connected with ascites and deposits of tubercles on the surface of the pelvic peritoneum. Although a large quantity of fluid was evacuated, the appendages completely extirpated and the cul-de-sac drained, the tubercular peritonitis increased steadily after the operation. The evacuation of the fluid had but little if any effect.

I have so far performed vaginal section 162 times, including two cases in which I opened the peritoneal cavity by mistake, and including none in which the cavity was not opened. Eighty of these sections were done without removal of the uterus. Of the latter all recovered from the immediate and remote effects of the operation.

I have performed vaginal hysterectomy eighty-one times, with four deaths, and resection of the rectum once, with one death. These represent results as they are, but not as they should have been. One of these deaths was in a case of sarcoma larger than a child's head; the other in the case of a large fibromyoma in an excessively anemic woman 53 years old; neither of them adapted to vaginal section. Had I operated by abdominal section, I should have recognized the futility of removing the first tumor, and would have been able safely to remove the second. If we eliminate these two cases, which ought not to have been operated upon in this way, and the exsection of the rectum, which does not belong to the ordinary vaginal section, the mortality instead of being 3.05 per cent. would be 1.22 per cent., a smaller percentage than I could have hoped for had I performed abdominal section for them. In fact a mortality of 3.05 per cent. in the first 162 cases (and which, including all, includes of course those upon which my experience was gained) is better than I could expect to do in a first series of 162 abdominal sections, and the series included more septic and complicated cases than is the rule in an equally extended series of abdominal sections.

The Roentgen Rays Innocuous.—Prof. Moritz Benedict in the *Medicinische Wochenschrift* ridicules the notion that the Roentgen rays are injurious to the hair or otherwise. He maintains that a few accidental cases have originated an unmerited notoriety.

PHOTOGRAPHY IN MEDICINE.

BY ELLERSLIE WALLACE, M.D.
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To speak of the uses of photography in the healing art at the present day makes one immediately think of the great discovery of Roentgen.

This undoubtedly stands at the head of the list of useful achievements that photography can perform. But inasmuch as large pecuniary outlay, and much time and special study must be sacrificed to it, I shall not say anything about it here. My object is rather to refer to simpler things which the camera may be made to do, and to recommend the study of the art of photography to young members of the profession. After years spent in the comparative inaction of the lecture room, and the want of physical exercise, from which we all must suffer more or less, while our brains are absorbing useful knowledge, the active use of the camera will be a very salutary and welcome change. It will not be time lost, but will benefit both mind and body. Nor is it necessary to invest any considerable sum of money in elaborate apparatus; while the expensive forms of lenses and cameras are generally the best, a modest outfit may yet be made to yield excellent results.

Many students, particularly those who have a fondness for physiology, own a microscope. Let them add a photographic outfit for plates measuring five inches by four, get one of Carbutt's "*multum in parvo*" dark-room lanterns, and they will then be in possession of an admirable apparatus for microscopic photography. I can not think of a more pleasurable and useful way of spending an evening than to make negatives of microscopic specimens, and then to print them on plates the right size for projection upon the screen by limelight, *i.e.*, $4\frac{1}{4}$x$3\frac{1}{4}$ inches.

Carbutt's lantern to which I allude is a most conveniently arranged affair for such work; it furnishes the red light in which the sensitive plate is unpacked and set in the holder. By a simple movement, the white light is admitted to the microscope (through a sub-stage condenser if required), and the exposure made. The ruby light is again turned on to develop by, and finally the finished plate is examined by still another kind of light just suited to the photographer's needs. All this is done without moving the lantern, and either kerosene oil or gas is used at pleasure. The camera (5x4) is set at the end of a board of say four feet in length, and the microscope turned over so as to bring the tube horizontal, pointing into the camera at one end and into the lantern at the other. A few bits of black velvet, two or three wooden blocks and some elastic bands complete the apparatus by which endless varieties of microscopic photography may be easily and cheaply done at night, after the toil of the day is over. It is hardly possible for one who has not handled this apparatus to imagine the extent of useful work it is capable of. I will not consume space by suggesting subjects—they are innumerable. I only wish to make it clear that the outfit will make either ordinary paper prints, or "lantern positives" on glass which will show splendidly on the lecture room wall to a class, no matter how large.

Objects not microscopic in size may also be studied in this way. Bones make excellent photographs. They should be carefully set in position on a board covered with black velveteen, and not taken in direct sunlight. A lens of rather long focus, say from six to eleven inches, should be employed, and a rather small stop (diaphragm) put in, so as to bring all into sharp focus. If the negative is well made, there is nothing to prevent the enlargement of prints to even more than life size.

Greater difficulty will be experienced when photographing any of the soft tissues. Nevertheless, they can often be done successfully. Deformities of every kind, wounds and skin diseases, take well. Among the wonders of modern photography, we may call to mind the fact that some kinds of diseases accompanied by eruption, will show the eruption on the photograph *before* it is visible to the eye. Certainly this ought to be followed up and carefully studied. For instance, in the time of any mild epidemic, a suspected case in hospital should be photographed at regular intervals of time, say eight or twelve hours, in daylight, and the first appearance of the eruption noted. Comparisons could then be made when the eruption was fully developed. But the uses of the *orthochromatic* films and plates should not be overlooked in this connection. Such work as this can be done with the cheapest of apparatus, if only the operator understands how to "light the sitter." Now, in large places, like hospitals, it is seldom hard to find either a corner of the building where the light can be admitted to the sitter from two windows at right angles to each other, or else some position where the walls themselves are white and stand at such angles that the necessary reflection is made upon the shaded side of the sitter's face. Here is where the scientifically educated, amateur photographer is almost sure to fail. He is ignorant of just those elementary points in photography that any professional member of the calling, however poorly schooled otherwise, could teach him in a few moments. I have seen a great deal of just this sort of failure among medical men of superb acquirements. Should any commencing amateurs meet with this article, when they are in trouble, let me advise them, without loss of time, to secure some of the books written on the art of properly posing and lighting the sitter, and carefully study out the principles before wasting another plate. Such firms as Anthony & Co., 591 Broadway, New York, and the Photographic Times Publishing Association, 60 East 11th Street, in the same city, would promptly furnish the right sort of instructive material. Persons who take up photography seem to think, though perhaps they might not care to admit it, that the camera is a sort of machine to grind out "pictures" more or less bad. And the young graduates in medicine are just the ones who would be likely to indulge in quiet sarcasms at the necessity for any real study in such a thing as a "machine for taking likenesses." I will close this portion of my subject by merely hinting at the wonderful works *in monochrome* that all the great masters of art have given to the world, and by reminding the reader that very many such things can be done with the camera, if only its possessor have proper sympathy with artistic studies, and if he have not, his chances of success will be small.

The reports which almost all hospitals and asylums send out will be much more interesting and useful if illustrated with good photographs. This is just the work for young residents to occupy themselves with in their spare hours. A good idea of the perfection to which this can be brought may be had by observing the work in the annual reports of Dr. T. G. Morton, Chairman of the Committee on Lunacy of the State Board of Public Charities (Pennsylvania).

Much is being done every day in the interests of medico-legal matters. This is self-evident, and I need not enlarge upon it, except to remind the beginner that there is a fair possibility of getting presentable pictures of contusions and other marks of violence invisible to the eye, just like the eruptions previously spoken of. In the differential diagnosis of blood corpuscles, the microscope and camera together can be made to give evidence of the uttermost value and exactitude. And in returning for a moment to photomicroscopy, I wish to mention Dr. Woodbury's suggestion, that in diagnosing tumors or cancer in presence of the class, photomicrographs might be made in an adjoining laboratory from a small section taken from the patient, and the result projected on the screen at the close of the lecture by darkening the room for a few moments. Here we should see the diagnosis confirmed before our eyes—an admirable thing for both teacher and student. Pathology and histology will furnish us with plenty of material for such teaching, and this is the kind of instruction that is not apt to be forgotten.

The vitascope, or at all events the camera, for making the endless band of pictures to be afterward shown in this instrument, will some day take its place in medical institutions, just as the Roentgen apparatus is doing now. It seems very little use has thus far been made of ordinary instantaneous photography for the closer study of abnormal movements of every kind, but now that we can obtain exact reproductions of any phase of motion, surely we ought to have full sets of illustrations of chorea, locomotor ataxia and all other matters of the sort. We must not forget that the movement is reproduced with absolute fidelity.

Thus, the art of photography is by no means to be overlooked in teaching to large classes in large halls. But it is perhaps even more successful and fascinating to the solitary student, or to the pair of devotees, who can get a close look at their work. Two earnest men could work together at medical photography far better than either one alone, while even three would be too many. There is no end of work waiting for them. And of fresh matter, too. Why does nobody publish *stereoscopic* proofs of anatomic, pathologic or surgical subjects? How many who do use photography in medicine know how to increase or lessen the amount of relief in the stereoscopic slide? Pictures of operations could be made in this manner that would instantly supersede any other kind of illustration, even if colored. And it would only entail a little more expense to get *colored stereoscopic slides on glass* which would be, in many cases, as instructive as actual presence at the operation.

THE USE AND ABUSE OF EXPERT MEDICAL AND SURGICAL TESTIMONY AND SOME RECOMMENDATIONS FOR INCREASING THE VALUE OF SUCH TESTIMONY.

Read at the Third Annual Meeting of the American Academy of Railway Surgeons, held at Chicago, Sept. 23, 24 and 25, 1896.

BY ROBERT MATHER.

GENERAL ATTORNEY OF THE CHICAGO, ROCK ISLAND AND PACIFIC RAILWAY. CHICAGO, ILL.

(*Concluded from page 723.*)

Thus far I have generalized, and what I have said is quite as applicable to many other kinds of expert evidence as to medical and surgical testimony. But a railway lawyer, speaking to railway surgeons on such a topic as the present must be understood by his hearers as having in mind in everything he says the special class of cases in which both are so much and so often interested. While, therefore, my observations have been general in terms, they have, no doubt, come to your minds as having special and direct reference to personal injury cases. Certainly no other class of cases more frequently displays the abuse of expert medical and surgical testimony, or demonstrates more clearly the necessity for improving the method of procuring and presenting such testimony. No doubt it is within the repeated experience of each of you that ignorant or corrupt expert testimony has presented and upheld opinions that you knew were unsound and theories that you knew to be false. The obscureness of many of the injuries which give rise to these cases and the subjective nature of their symptoms render these achievements of the expert comparatively safe, while the sympathy that rests in the jury box for the subject of the injuries and the prejudice or indifference to the rights of the defendant which also there abide render them usually successful. Dishonesty and charlatanism among medical experts have won more cases without merit and magnified more verdicts where merit was slight, than character and learning have defeated in the one case, or diminished in the other. Nothing, more than the uniform and expected result in this class of cases, demonstrates the incapacity of our present system of presenting opinion evidence to lead the jury to a conclusion which speaks the truth. A nearer approximation to even and exact justice in the determinatian of causes arising out of personal injuries than is now possible under present methods of trial and existing rules of evidence would, I believe, be secured by the plan of selection and appointment of experts by the court.

The adoption of this plan would involve in this class of cases, a further step. The injured person should be compelled to submit himself to a personal examination by the court's experts. The right to require such an examination could not be denied to an officer of the court charged with the duty of ascertaining the truth. It would only furnish the opportunity for the performance of that duty. Indeed, some courts have held, even under the present system, that the power exists to compel such an examination by experts who are not official. Schroeder v. Chicago, Rock Island & Pacific Railroad Company, 47 Iowa, 375 (1877), was the pioneer case in that direction. The question was determined, without precedent or authority to guide the court, on lofty ground of principle. It was said: "Whoever is a party to an action in a court, whether a natural person or a corporation, has a right to demand therein the administration of exact justice. This right can only be secured and fully respected by obtaining the exact and full truth touching all matters in issue in the action. If truth be hidden injustice will be done. The right of the suitor, then, to demand the whole truth is unquestioned; it is the correlative of the right to exact justice. It is true, indeed, that on account of the imperfections incident to human nature perfect truth may not always be attained, and it is well understood that exact justice can not, because of the inability of courts to obtain truth in entire fulness, be always administered. We are often compelled to accept approximate justice as the best that courts can do in the administration of the law. But, while the law is

satisfied with approximate justice where exact justice can not be attained, the courts should recognize no rules which stop at the first when the second is in reach. Those rules, too, which lead nearer the first, should be adopted in preference to others which end at points more remote. This doctrine lies at the foundation of the rules of evidence, though it must be confessed that the superstructure does not always fully conform thereto."

Since this decision the right of a defendant in a personal injury case to demand, and the power of the court to compel a personal examination of the injured person has been much mooted, and the decisions of the courts have been not only diverse and contradictory, but wavering and inconsistent. Those States in which the power to compel an examination is admitted either absolutely or under conditions are:

Texas: M. P. R. Co. v. Johnson, 72 Texas, 95.

Georgia: Richmond & Danville R. Co. v. Childress, 82 Ga., 719.

Alabama: Alabama Great Southern R. Co. v. Hill, 90 Ala., 71.

Minnesota: Hatfield v. St. P. & D. R. Co., 33 Minn., 130.

Wisconsin: White v. Milwaukee City Ry. Co., 61 Wis., 536.

Nebraska: S. C. & P. R. Co. v. Finlayson, 16 Neb., 578; Stuart v. Haven, 17 Neb., 211.

Kansas: A. T. & S. F. R. Co. v. Thul, 29 Kas., 466.

Arkansas: Sibley v. Smith, 46 Ark., 276.

Ohio: Miami & M. Turnpike Co. v. Bailey, 37 Ohio St., 104.

Missouri: Sidekum v. W. St. L. & P. R. R. Co., 93 Mo., 400; Shepard v. M. P. R. Co., 85 Mo., 634; Owens v. K. C., St. J. & C. B. R. Co., 95 Mo., 169.

Both the right of the defendant to demand and the power of the court to require such examination have been denied in Illinois: Parker v. Enslow, 102 Ill., 272; C. & E. I. R. Co. v. Holland, 122 Ill., 461, S. C., 18 Ill., App. 418; St. Louis Bridge Co. v. Miller, 138 Ill., 465, S. C., 39 Ill., App. 366; Joliet Street Railway Co. v. Call, 143 Ill., 177, S. C., 42 Ill., App. 41; P. D. & E. R. Co. v. Rice, 144 Ill., 227; City of Galesburg v. Benedict, 22 Ill., App. 111.

The same result was reached in Indiana: T. H. & I. R. Co. v. Brunker, 128 Ind., 542. And by the United States Supreme Court in Union Pacific R. Co. v. Botsford, 141 U. S. 250; though Justices Brewer and Brown, in a dissenting opinion by the former, gave their adherence to the doctrine of the Schroeder case in Iowa. An opinion by the Supreme Court of New York, rendered in 1868, but not published until after the Schroeder case was submitted in the Iowa Supreme Court, asserted the power to compel an examination. (Walsh v. Sayre, 52 How. Pr., 334.) This decision was afterward overruled at a general term of the Supreme Court (Roberts v. Ogdensburg & Lake Champlain R. R. Co., 29 Hun. 154) and the question was finally put at rest in that State by a decision in 1891, denying the existence of the power. (McQuigan v. D. L. & W. R. Co., 129 N. Y., 50.)

This vacillation in the courts of New York had its counterpart in the courts of Missouri, where the question as to the existence of the power was first decided in the negative and subsequently, as has been seen, in the affirmative.

The decision in the McQuigan case led to the adoption of a statute in the State of New York as follows:

"In every action to recover damages for personal injuries, the court or judge, in granting an order for the examination of the plaintiff before trial may, if the defendant apply therefor, direct that the plaintiff submit to a physical examination by one or more physicians or surgeons to be designated by the court or judge, and such examination shall be had and made under such restrictions and directions as to the court or judge shall seem proper. In every action brought to recover damages for personal injuries, where the defendant shall present to the court or judge satisfactory evidence that he is ignorant of the nature and extent of the injuries complained of, the court or judge shall order that such physical examination be made."

This statute was enacted as an amendment to that section of the Code of Civil Procedure which provided for an examination of the plaintiff under oath. In construing the amendment, the court held (Lyon v. Manhattan R. Co., 142 N. Y., 298) that the physical examination provided for thereby was designed to be a part of the examination of the plaintiff under the section as it stood before the amendment, and that an order would not issue for the physical examination of the plaintiff, except as a part of the taking of his testimony. In other words, the defendant, in order to obtain a physical examination of the plaintiff, must call him as a witness before a referee for the purpose of taking his testimony, and as a part of this process may compel a physical examination. It was said: "The statute has in terms provided that the physical examination shall be procured in the same way and as part of an examination of the party before trial, and in that way only and by conforming to the general provisions of law on the subject can the object and purpose of the amendment ever be attained. This construction gives effect to every word of the section as amended, and is in harmony with the other sections immediately preceding and following. Then the referee becomes something more than a mere spectator at an idle ceremony. He may take the plaintiff's testimony upon the issue and report to the court as upon an examination before trial. He has, of course, the power to administer an oath and to authenticate the proceedings, and the plaintiff is bound to appear before him and answer all proper questions with respect to the nature and extent of the injuries, whether framed by the medical experts from their own examination, or as a part of it, or by the counsel present. It becomes a fair struggle for truth and both parties may participate."

The "struggle for truth" provided for in this awkward enactment would seem to be an ordeal from which both sides would shrink. The defendant in the ordinary personal injury case would hesitate to make the plaintiff his own witness and, therefore, to be bound by his testimony, even if thereby he should secure the right, which otherwise he would not have, to a physical examination of the plaintiff and his injuries. On the other hand, if, as appears from the report of the case, the physical examination is to be part of an oral examination to be witnessed and participated in by a referee, experts and counsel on either side, it would seem that the plaintiff, especially if a woman, would rather bear the ills her injuries entailed upon her than fly to a method of relief which contemplated such an inquisition. The more satisfactory and seemly way would seem to be to compel an examination of the plaintiff's person by the experts selected by the court under all the circumstances of privacy and of secrecy (except for the purpose of the giving of testimony by the experts at the trial) that would

surround a similar examination by the personal physician of the injured party. Such an examination, conducted for the sole purpose of ascertaining the truth by professional gentlemen of the highest standing, occupying the position of officers of the court, could neither wound the sensibilities of the most acute organism, nor excite alarm on the part of the most suspicious that the examination would be used for anything but the ascertainment and enforcement of even and exact justice.

The indictment here framed against the present abuses of expert testimony would be confessed by the defender of the existing system, if it had a defender. The remedy for the evil, substantially as I have outlined it, was long ago proposed and has been widely approved. The discussion of the mischief and its remedy furnishes a subjective intellectual pleasure to railway surgeons and lawyers on such occasions as this. But I doubt if practical accomplishment of the needed reform will spring from our discussion. We will be looked upon, I fear, too much in the light of special pleaders, advocating our and our client's advantage. Not that we *are*, but only that we *seem* to be to the prejudiced public interested in the question, except with a lively interest in the accomplishment of both abstract and concrete justice. All that has been said, however, of the use and abuse of expert medical and surgical testimony in personal injury cases, applies with as great or greater force to insanity cases and criminal trials. There the selfish and personal point of view is lost in the higher and broader considerations of public interest; for the abortions which the system there produces are not only crimes against justice but injure the health of the body politic. The ear of the public will eventually be caught by appeals for a change in the prevailing system, based on its evil manifestations in that direction, though our more or less selfish cry be not heard.

DISCUSSION.

Dr. R. HARVEY REED—This paper bears on a subject which, beyond all question, is of vital importance not only to the railway attorney and the railway surgeon, but to the railway company and the plaintiff. One thought brought out by the paper was that "the expert did not testify to what he knew, but what he thought." That in the abstract may be true—perhaps judging an expert from the standpoint that he is called in to tell what he thinks of certain facts when the facts are presented to him; yet I think you will bear me out that the average expert has knowledge of the facts as well. I know in the courts in Ohio it is a common occurrence for those who have been called to testify as experts to examine the case and then go before the courts and testify as to the facts in the case. For instance, we will suppose a man has prosecuted a company for injury to a limb; that it is short, or it is crooked, and he claims a certain amount of damages because of this. The experts are called to examine him to see how short or how crooked that limb is, how far it is from a normal condition, and to say whether or not this abnormal condition is an injury to that man, and to what extent it is an injury. Under these circumstances the expert is testifying on facts, and he acts as an expert in making an examination of the case to determine for himself what the facts are. Now it seems to me that the expert may not only tell what he thinks, but in many instances he tells what he knows. In the paper it was stated that an expert was called because of his peculiar or particular knowledge; then, if this is so, he must have knowledge or he wouldn't be called; if he has knowledge he speaks from what he knows, and forms his ideas from the facts in the case because he knows them to be facts. I call attention to this because it seems to me from what little experience and observation I have had, that it is hardly fair to say that an expert only tells what he thinks.

If we discard the expert from the witness stand, then who shall give this knowledge? I will admit that as expert testimony is handled by our legal brethren and as expert witnesses act themselves of their own volition, expert testimony in a majority of cases is a farce. But because it has proved to be a farce, is that a reason why we should discard it? We must admit there is a value to be obtained from it if we put it in the right channel—if we handle it in the right manner—and I have for years been a strong advocate of calling the expert witness by neither the prosecution or defense. I think the moment you put the expert on the stand with the understanding that he is to testify for either the prosecution or the defense, you put him in a false position. He should be called, as the gentleman says in the paper, to testify to the facts and give his knowledge on these facts as they occurred to him and are presented to him. When medical experts are called on the stand it has been the custom of lawyers—and more by some than others—to commence by trying to show that the medical expert does not know anything, that he is a consummate fool, does not even know his anatomy because he could not tell some little muscle about the eye or nose that he would be supposed to know; and the attorneys have frequently made their cases a great deal worse in many instances by resorting to those little technicalities, if you want to call it, or catch-questions as the schoolboys call them, to give the impression that the expert did not know anything at all. That is wrong, and I think the attorneys on either side would take hold of the expert to find out what he knows about the case, place the questions fairly and squarely before him and get out of his head the idea that he is testifying for anybody, but that he is a sworn witness to tell the truth, the whole truth and nothing but the truth as it bears on the question; do not try to aggravate and entangle the witness by getting him off on a subject absolutely extraneous to the question in court, and then endeavor to make the jury believe that what he said is true or is not true, you would find the medical expert would be of more value than he is under the present system.

As to the pay of the expert, I think we are all agreed that he should be paid, but I most heartily agree with the paper that he should be paid and employed by the court. I do not think the prosecution or defense, either one, should employ him or have anything to do with paying him, except they should foot the general bill, which should come through the court entirely, making him a court official, as has been stated. This, I believe, a most valuable suggestion. I think we should advocate the idea—of course it is an embryonic cell and it needs to be developed into to a fixed tissue cell, but it has given us thought that will perhaps help us to remedy this system which has been a detriment to the companies and a detriment to the courts.

Dr. R. S. HARNDEN—I concede the position which the paper takes. I believe we are in disrepute today as a profession—I do not think any physician here or elsewhere disputes that fact—but wherein lies the fault? The gentleman points out the remedy. It seems to me that he has simply quoted and reiterated what we ourselves have claimed for many years. I believe it is the voice of the medical profession as well as the legal profession that the expert witness should be employed by the court and paid by the State, so that his evidence should not be biased by the various attorneys. The gentleman has stated that as a matter of fact that might be the case—the attorney might employ the witness and bias his evidence. We all know that to be so. But I want to say in the defense of my profession, that I will not concede any one in the legal profession as being in advance of my own. I believe that while the legal profession is today studying Blackstone and the tenants' law of years since, that our profession is in advance of the current

of progress of thought throughout the world. (Applause.) I believe that our's is one hundred years or more in advance of the legal profession, and I say that not to their discredit, but I believe it is true. It seems to me, with our profession standing where it does today, that the courts and the legal profession must be far behind us if they can not obtain help for the procurement of justice from our profession. We have the experience, the ability, we have accomplished great ends in the past decade, and if the judge and the court can not receive the benefit of this improvement then where lies the fault? Now, it is my firm belief that, as able as a judge or a lawyer may be, he may be intensely ignorant on some things. The gentleman presented one point that attracted my attention. I do not remember the terms used, but he would not allow the court or the judge to make the selection, but simply to designate. I think that was a proper discrimination between the two terms, and I think I can state for our profession that we would favor the court's making the selection or designation, but I believe the main point, as has been stated by the gentleman, with some exception, is correct, that the litigant should not pay the expert witness. Now I do not believe that medical experts or medical men, as a rule, are biased to the extent that has been stated. I do not think my profession work for large fees. As a rule they do more for charity and honor than any other profession on the face of this earth, and it seems to me that it is a stigma upon us for the legal profession to point the finger of scorn at us simply because of their own ignorance and of the methods of obtaining the evidence which shall assist in the procurement of justice.

Dr. A. D. Bevan—The statements as outlined in the paper I believe to be absolute facts. I could not see any attack upon the medical profession. I do not think it was so intended. Certainly expert testimony has been, since I have been a member of the profession and appeared as an expert, a farce. I have almost never testified in a trial without feeling that some of the experts were prostituting, not scientific knowledge, but the name of medicine in appearing in those trials—even men of wide reputation—by being the employed partisans on one side or other of the case. I know that personally I feel and always have felt that when a medico-legal case comes to me, when a man comes to me and is willing to pay fifty or a hundred dollars for my testimony, I can not get away from the fact that I am employed; I can not get away from the effort of making the very best of my employer's side of the case. I feel that and always feel it. I always fight against it and always say to myself, "Now I want to present this case and my opinion of it just as I would in a clinic if it were a medical case and I were describing it in class and not a court room," but the fact does remain that the medical expert testimony as it is today is a disgrace to the medical profession in the better sense of the word, or to medical science in any sense of the word. It is simply one of the evidences of human frailty, of bad machinery in bringing about justice. The same applies to any other profession—an engineer's, a real estate man's expert testimony. The same facts apply to all expert testimony and, as I understand the paper, it is not in any sense an attack upon medical progress or knowledge. It is simply a statement of facts as they are, and I believe them thoroughly stated. The remedy is, of course, the great problem. I think it lies more in the hands of the bench and bar than it does in the hands of the medical profession or any class of experts. I believe that they could start the machinery in motion that would bring about the necessary reforms better than we can, but that the fact does exist we can not get away from. I know that every one of the members of this Academy have felt when they have testified in various medical cases where some charlatan was introduced and made some absurd statement, that expert testimony was a disgrace to science and justice, and eventually we must find some means of curing this error. I have often thought when I have heard this subject discussed, that someone must start the machinery in motion, some one must make an effort and bring about this reform. The Academy of Railway Surgeons can do very little, but I think we could do something, and whatever we can do I believe we should put ourselves definitely on record as doing. I would not submit a plan, but the end must be accomplished by the education and elevation of public opinion until it demands some definite, positive change in this matter.

Dr. Milton Jay—I do not know of any subject that is more essential or of more interest to the physician than this one. Having been for many years connected with the railways of Chicago, I have been utterly disgusted with the testimony from experts, whether they are posted or not. It is an injury to the cause of railroads that we are surgeons of; it is not one time in ten that the injured individual gets justice, and it is never that the expert gets justice. Now I thoroughly believe what Mr. Mather has said on this subject. You go as an expert, you are the chief of local surgeons of the road and you are one of the experts. Dr. Reed says the lawyer tries to tear their evidence to pieces—the lawyer is not worth a cent if he does not. (Laughter.) What is he there for? How long do you suppose a man sueing for an injury would employ a lawyer if he did not do his best to get all the damages he could? And the very fact that I am a railroad surgeon, although I undertake to tell what I honestly think is that man's condition, and has been, do you suppose a jury takes my evidence to be as honestly given as though it were given by a man outside the employ of the road? The jury can not do it, and the lawyer can make the impression that I am a little bit biased—and if I am not a little bit biased in its favor the railroad is not going to keep me. (Laughter.) I acknowledge that what Dr. Bevan says is absolutely true, and I do not like to go as an expert for my own company, while the companies tell us, as they do, "Tell what you believe is the condition of things, but if you have to be biased, try to be biased in our favor and get your witnesses to believe the same way." It is human nature and I do not think that is lying. These are the facts of the case. We do not get our dues and the expert does not get his. If he is employed by the plaintiff it is perfectly natural that he is going to help that plaintiff. I have talked within the last six months with the officers of our railroad from the President down, and said: "Can not we get together and get a petition to the legislature to remedy this evil?" Our attorney says, "You can not do that." I asked why. He said, "Because the legislators will say the railroads want it, and they have got to pay for it," and he said, "Good Lord, you would not expect to get anything through the legislature unless there was boodle in it? Have you got a hundred thousand dollars? If you have, I can get anything through." I do not believe we will ever get it by legislation, but if we could get at it in some way, either as Mr. Mather suggests, or in some other way, so that the judges or an association of judges, three or five, in this city should have a staff of disinterested surgeons or physicians, or whatever they might be called, so that out of them the judge should pick one, or two, or three, and that be the only testimony given, that would be disinterested. The point is to get disinterested evidence before the jury. The jury will not consider an employe as impartial as an outsider. I would rather never be an expert than what you have to be under the present circumstances. The Doctor here (Dr. Harnden), thinks he has got the grandest profession in the world, the medical profession. I have found some lawyers pretty well up in anatomy when they come to the cross-examination, and the doctor does not know anything like as much about legal science as the lawyer does about medical science. It is a subject as broad as the surgeon and the railroad and the lawyers that have to do with it, and I say, and have for years, there ought to be some kind of medical evidence, some way or rule adopted

by which the medical expert could be disinterested, not employed by either the defendant or prosecution.

Dr. W. A. WARD—I would like to have the gentleman in his closing remarks explain one thing that he broached in his paper. If this expert medical witness is made an officer of the court and these intricate medical problems are submitted for solution, and upon submitting that report, either verbally or in writing, as the court might dictate, I would like to know if he should be subjected to a cross-examination upon it. He simply does in that function, as I understand the idea, what the judge does in his charge to the jury. The judge elucidates, or attempts to elucidate the points of the law. Now let this commission, or whatever may be seen fit to call it, that is appointed from the medical profession elucidate the medical or surgical principles involved, and let that be as sacred as the judge's charge. If it were rightly conducted, and the proper rules employed, it would stand to the jury in the same relative position, or could be brought up to that position.

Dr. D. C. BRYANT—I want to state for the paper that the the gentleman read, that I believe as he does, that the fault lies not alone with the medical or legal profession, but with the law itself. As the law now stands, we, if employed as experts, stand in the same relation to the plaintiff, or the one that employs us, that the lawyer does—the great difference being in the amount of fee received, the lawyer gets the money and we get very little. Out in the wild and wooly west the lawyer saves us from "prostituting our honor" by interviewing us beforehand; first the man who wishes to employ us holds a private interview with us, asking our opinion about the case; if it pleases him then he sends his lawyer the next evening, and the lawyer interviews us, and if we can answer his questions to his liking he employs us as experts; if not, we are turned down, which saves us from "prostituting our honor." I do not know whether this is done in the East or not, but it is done in the West. I do not see any remedy except as suggested by the writer of the paper, that is, changing the law and have the expert employed and paid by the court and not by the parties.

Dr. L. E. LEMEN—There is one way in which this whole thing can be settled satisfactorily, and until that is done it never can be settled satisfactorily, and that is, to have the expert—let him be medical or any other department—be an officer of the court the same as the Judge. As long as humanity exists the expert will have a sympathy for the one who calls him; it is utterly impossible to be otherwise. A little further in the West, and perhaps a little woolier than where Dr. Bryant comes from, in Denver, when an attorney comes to see us as expert in any given case, he gives us a retainer and places the case before us, and if our testimony is such that it can benefit him we go on the stand; if not, he seeks some one whose conscience is more elastic.

Dr. C. B. KIBLER—I think it was Holmes who once said, "Strong is the blister that will draw upon the conscience of the man of law." I believe the legal profession is as much at fault in the manner in which the expert medical testimony is looked upon today as is the expert himself. The attorney takes the expert in his hands and he assails him with the questions he has fortified himself with, and makes it appear that the expert does not understand the case; how does he do it? Simply by not allowing that expert to express his honest opinion. The charge can be laid at the door of the legal profession that the expert is such as he is.

Dr. C. K. COLE—The expert does not need to attempt to do this work unless he feels equipped, unless he feels competent. The expert should go upon the stand with the consciousness that he knows more about the subject than any one else, and he should know the law concerning the subject upon which his evidence is given. If he feels that he is not thus competent he should decline to give the testimony. I think we are agreed that the writer of the paper has not undertaken to make an attack upon the medical profession. He has given us some plain truths and, as he himself terms it, his paper constitutes an indictment, an arraignment, and we can but acknowledge the truth in the main of what his paper says. I believe the medical profession has a crystallized sentiment upon this subject: we are agreed that our function as medical experts is to be non-partisan, to be absolutely fair, and I believe it is as possible for medical experts to be fair as for the judge on the bench to be impartial in his rulings. Professor Bevan speaks of the better side of the medical profession. There are two sides to the medical profession; the charlatan, the ignorant, who is ready to prostitute his position in the interest of the fee, may be compared to that class of lawyers who today in the butchering business, tomorrow elected justice of the peace and the next day are honored members of the bar; those are the lawyers who may be compared with the ignorant physicians who are incompetent and unworthy. I believe the solution of this question lies with the bar, with the better side of the legal profession, who must make sentiment for a better state of affairs and possibly carry out the suggestion in the address of the President, of a commission of experts appointed by the court, similar to the commission existing in France, which shall be prepared to give absolutely non-partisan testimony in cases of this character.

Mr. MATHER—Mr. President and gentlemen: I appreciate keenly all that has been said about my paper, and I accept it as heartily and welcome the criticism that has been urged against it. I thing there will never be anything done to rectify the evils of this matter until the conscience of both professions are pricked by the deplorable situation and both impressed with the necessity for impartial expert testimony, and I think it is well both that I should have said some sharp things of the medical profession and as one of you said, that I should be compelled to take the medicine myself. I had supposed that the charge of prostitution that I brought against the medical profession had been so hedged by limitations that it struck those to whom it properly applied. Dr. Reed I think misconceived that portion of my paper in which I said the expert was called to testify to what he thinks and not what he knows. In a legal sense the expert occupies two positions. He is an ordinary witness as to the facts of which he is advised either through examination or treatment of the case; in so far as he testifies to the actual condition he stands on the apparent facts of the case; as for instance, the length of the limb or the extent of its crookedness, he becomes an ordinary witness; he is not an expert in the ordinary sense in which that is used in the courts until he comes to testify to the unseen and hidden things which the eye can not see and which the court, jury and lawyer know nothing about except as they have the opinion of the medical adviser on that point. So that when I said the expert is called to testify what he thinks and not what he knows, I had differentiated those two positions which he occupies. I do not think it is necessary for me to say that no attack on the medical profsssion was intended in my paper. I have already been ably and eloquently defended on that charge. With reference to the suggestion of an official staff of experts, it has occurred to me there is a great deal of practical difficulty in the way of working out the reform through that means. In Germany, as I understand, there is a complicated system of official experts that work up from the county physician, or what is called county physicians with us, to a sort of court of medical review which passes in the last instance on any medical question. I am hardly prepared to believe that our experiment with republican forms of government has demonstrated the entire feasibility of that sort of system here. I think the medical profession will agree that the character of medical men, the class of medical men either by election or selection of the executive to fill the offices of our public institutions that are

required to be filled by gentlemen of your profession, is of such character as to justify any considerable experimentation of that plan. In other words, I believe the influences which surround political selection for public office, either by ballot boxes or appointment of the executive, are such as would not get a high class of public experts, and therefore I am convinced that aside from the suggestion that I have made, that in each case there should be the designation by the court of the experts who should examine into that case and make a report, we ought not to go any further. (Applause.)

WHY ALL PHYSICIANS SHOULD BE PREPARED FOR SURGICAL EMERGENCIES.

Read before North Texas Medical Association, at Denison, Texas, Dec. 8, 1896.

BY J. E. GILCREEST, M.D.
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It has long been a question of no small importance to me, why all physicians do not carefully prepare themselves for surgical emergencies; and especially does that query apply to men who practice in the remote villages, or in the country, where they will certainly be called to attend all accidents occurring in the immediate vicinity. For the older membrs, who have had the benefit of experience, there is no excuse. For the younger men who are just starting out, there may be possibly, but I doubt it, gentlemen, seriously doubt it. While we have many noble, conservative, earnest and capable young men in the profession, men who will shine in the scientific firmament, we still have two extremes: 1, the bold ones, who are overanxious to wield the scalpel and thus roll up a large list of surgical operations, the results of which are more or less cautiously exposed; 2, the timid young men, who make a bad break in the very outset of their professional career, by quieting their consciences with the delusion that they will not be called upon to do any surgery, that they do not fancy it as a science, and consequently think it wholly unnecessary to go to any trouble or expense in preparation. The men comprising the first class are dangerous. With an eye single to reputation, they will rush blindly into an operation, without paying any attention to the minor details, so all-important in the successful treatment of recent wounds. They think more of the skilful use of the scalpel or saw, than of the preparation of those very useful instruments; study more about how nice they could do this amputation, or that resection, than how to dress and care for it properly, after its execution. They can very easily find occasion to operate, where the conservative surgeon could not possibly have done so. In short, if they do not curb their false ambition, these men will sacrifice many human lives in order to glorify themselves, and like a sky-rocket, will go on and up, until the explosion, in shape of some glaring blunder, comes, when their descent will be equally rapid, and remorse alone is all that is left to them.

And now we shall investigate those of the second class. The man who enters the ranks of professional life with an idea that he already knows enough for all practical purposes, would do well to commit suicide, for it will prevent him from doing murder indirectly. This class, if possible, is worse than the former, because people very naturally suppose that they at least understand the simpler details, and in consequence depend upon them to do the thing most necessary until more experienced help can, when required, be summoned. What is the result? They are wholly unprepared. Their gray matter is a muddle and won't work. They get rattled. Everything they do only serves to make matters worse, and so hopelessly upset things generally, that it is sometimes impossible for the very best surgeon to correct the blunders which, taken with the original trouble, end seriously, if not fatally. Now, there is no excuse for all this. Any man can and should qualify himself to cleanse and dress wounds aseptically and antiseptically. The expense is nothing, really nothing, and the rules are easy to comprehend; true, they are strict, yet simple. Let us see what would be necessary for each physician to do, and have, to treat wounds successfully. First, he should spend a few hours in studying up the aseptic and antiseptic treatment of wounds from some recent text-book on surgery. If he has none, he should borrow one long enough for that. He will need in a small bag scalpel, scissors, dissecting and artery forceps and probe, ten yards bichlorid gauze in a sealed jar, bandages, absorbent cotton, antiseptic catgut and silk in bottles, a few needles, a box of green soap, brush and fountain syringe, some bichlorid solution or tablets. The cost of this need not be more than three or four dollars, and with it, it is possible to put nearly all recent wounds in an aseptic condition. But to return to our men. We would not expect a student of the fine arts, the first time he took up his brush or chisel, to execute a painting like the famous Raphael, or to design and execute a masterpiece in statuary like the immortal Angelo. But by careful study of the most minute details, he can and will master his work, if he keeps everlastingly at it. The same is true of surgery. It has its elementary rules, its fundamental principles, and to ever be successful, we must learn them as thoroughly as a child does its alphabet. The following language emanated, I think, from Sir Isaac Newton, just after the famous discovery which will carry his name in reverence among the learned of all future ages. "For I seemed to have been only a child playing on the seashore, diverting myself by now and then finding a smoother pebble or a prettier shell, while the great ocean of truth lay all undiscovered before me." Think of it! "Only a child." A man whose life entire had been given up to the study of science. The language is worthy the modesty of a great and learned philosopher. Such has been the experience of all men who have achieved either ordinary success, or eternal fame; all of them have been close adherents to the most minute details. Now, the first principles of surgery are those of aseptic and antiseptic preparation, dressing and treatment of wounds, recent or otherwise. Once we have this mastered, and can properly execute all points scientifically, we have then a solid foundation laid whereupon a substantial surgical edifice can be builded, against which the storms of time or adversity can beat with all the relentless fury of enraged nature, and there stand, a lasting monument to the man who built as he went. We want no pyrotechnic displays, nothing but simple, earnest, honest, conscientious, hard work. We can not afford to either experiment, or treat with dalliance, the human family. Such is not our mission, and when we do so, we become not only professionally insincere and dishonest, but sin before the most high God of the universe, and to Him will be held responsible for any wrong done in cold-blooded experimental work, or from wilful ignorance; and most ignorance, in this nineteenth century, is little else than wilful.

Let us take the matter to our own rooftree. Suppose parent, wife or child should receive an injury, which of itself had it received proper care, amounted to nothing. One of these "don't-want-to-know" men is called, with his untrimmed finger nails, beneath which several generations of different bacteria have been allowed to thrive unmolested for many days. The wound we will presume to be nearly, if not quite, aseptic. How long do you suppose it will remain so under the following conditions? He very carefully gets a kitchen wash-pan, fills it from the tea-kettle, finds after cautiously inserting his dirty fingers therein, that it is too hot, slaps his hands against a pair of not over-cleaned pantaloons until the pain subsides, cools the water from an ordinary kitchen bucket, with great deliberation and care drops four minims of carbolic acid into the pan, and his antiseptic preparation is completed. He quietly tip-toes back to the injured one, looks very wise and the real trouble begins. He pays little or no attention to the broken and bruised pieces of flesh that, at best are of such low vitality as to offer no resistance whatever, but rather serve as an ideal pabulum for the bacteria. He gets a piece of cloth of doubtful origin, immerses it in his solution, squeezes a little water over the injured parts, pokes it once or twice with a dirty probe, binds it up with a piece of "nice soft old sheet" and his work is done. The wound is now thoroughly infected; it suppurates most beautifully; trouble follows; possibly death. Now this man may be called, and probably is, a thorough conscientious physician; but I maintain, that he is responsible for that death beyond any question. And while the law protects him, he is certainly guilty of an ignorance of those details which would have surely prevented all this, hence, is culpable, and ought to be punished. Here is a fact that is true beyond question. In medicine we often meet with indifferent results as to their action physiologically; but in wound treatment there is none of that uncertainty. Good work is always productive of good results. There are many lives lost annually from a lack of this knowledge, and no man is excusable, who has had time and opportunities to qualify himself for this work. The antiseptic method of wound treatment, has, like all good things, been the subject of ridicule by some men, but without cause. It has stood the test thus far, and will continue to do so. Last year Henle wrote a timely and important paper on the antiseptic treatment of recent wounds. He took up the laboratory study of streptococcus infection. The germs were obtained from erysipelas and phlegmons occurring in the human system and were inoculated in the ears of guinea pigs. In some cases they were rendered excessively virulent by a successive series of inoculation, the spleen pulp of animals dead of streptococcus infection being injected into another, the reënforcements being continued. The results showed that the application of bichlorid solution prevented the develment of erysipelas. The ear which was not so treated but simply cleaned with water, after thirty or forty hours, became red, swollen and infiltrated, presenting all the symptoms of local erysipelas, while microscopic section showed wide diffusion of the germs. The disinfected ear remained normal, without reaction, saving that which comes from the healing of a clean wound. Microscopic section revealed a complete absence of germs. Beginning with disinfection carried out a few minutes after infection of the wound, and lengthening the intervals, he found that if bichlorid be employed three hours after infection, even through the most virulent form of streptococcus be inoculated the wound remains reactionless. In some cases where cleansing was not attempted for eight hours, erysipelas did not develop, or if it did, was more mild and slow in its course. Microscopic section showed that the first four hours the germs remained strictly localized. After that, they begin to penetrate the lymph spaces, and were found at some distance from the surface of the wound, hence beyond the action of the most powerful disinfectants. The clinical application of these facts is very clear, as to the value of antiseptic treatment of recent wounds. It has been demonstrated by laboratory research; and to be effected, must be applied as early as possible after the infliction of the wound, and must penetrate to its deepest part; there should be no hesitancy in enlarging the wound when necessary to allow thorough applications to all its parts. But even if the wound be two, or three, or even four hours old, the surgeon by this treatment may hope to avoid suppuration. Now, gentlemen, if wounds that are septic from their manner of infliction and exposure, can be rendered aseptic, why can not all practitioners, by a few hours' study and preparation, cleanse and put a fresh wound in an aseptic condition? For my part, I can see no reasonable excuse. He can do so if he will; and after having rendered that valuable service, can if he does not care to close the wound or take any further surgical responsibility, dress the wound with plenty of moist bichlorid gauze, cover with rubber tissue, retain the whole by bandage, and keep the wound in good condition for any operation that may be necessary; but unless the work is carried out in every detail, it may as well not be done at all. I could mention a number of cases, that have come under my observation the past few years, where lives and limbs have been lost, that might have been saved by strict antiseptic treatment. Doubtless the majority of the association have had similar experiences, so I will not consume your valuable time by reporting them.

THE RADICAL CURE OE HYDROCELE BY A NEW AMBULATORY METHOD.

BY J. N. BARTHOLOMEW, B.S., M.D.

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The tendency of modern surgery is toward methods that shorten convalescence as much as is compatible with safety and toward ambulatory treatment when possible. As far as I have been abie to ascertain no satisfactory ambulatory treatment of hydrocele by any radical method has been described. The nearest approach to it being the old method by injection, which in many instances is far from satisfactory. I wish here very briefly to detail a method of treatment that has been put to the test in a few cases with very gratifying results.

Before describing this method I wish to review briefly the operations that have been most used and are usually employed today; to point out some of the deficiencies of these methods and contrast them with the procedure I am about to describe. In speaking of hydrocele I refer to an abnormal accumulation of fluid in the tunica vaginalis testis, the pathology of which is so well known that it need not here be referred

to. The methods most in use at the present day are by injection and open incision. The injection method consists in withdrawing the fluid by means of a trocar or an aspirating needle and injecting some irritating fluid as tincture of iodin or carbolic acid with a view to setting up an adhesive inflammation that will result in the final obliteration of the cyst by adhesion of the apposing surfaces of the cyst wall. This method is successful in about 85 per cent. of cases, in which it is applicable if rightly carried out. It is almost always saccessful in children and in recent cases in adults. When this method fails the failure is probably due to one of three causes, either a badly selected case (and what is meant by that will be explained later) or too little irritating fluid being used; the amount should be at least one-fourth as much in volume as the amount of fluid withdrawn from the sac, or a failure in the aseptic technique.

There are several classes of cases in which the injection treatment is not applicable. This fact has long since been discovered and these cases have been classified by various authors as follows:

1. In those in which the vaginal process has not been obliterated or in the so-called congenital hydrocele. 2. In old long standing cases in which the walls of the sac are thickened or infiltrated with calcareous matter which prevents the complete collapse of the sac after the fluid has been withdrawn. 3. When the the sac is very large. 4. In cases where the surgeon is desirous of examining the testicle by inspection or palpation. 5. In cases of hydrocele complicated with hernia. 6. In debilitated subjects in which the necessary rise of inflammation is dreaded. 7. In cases of multilocular cysts.

By the injection method the patient is usually confined to bed from one to two weeks and the cure is not complete for from four to six weeks, with uncertainty as to cure at the end of that time.

The injection is often extremely painful and after a few hours following the injection the scrotum has become as large or larger than before the sac was emptied. The inflammation does not entirely disappear before the end of six weeks.

Treatment by incision is of ancient date. It fell into disrepute on account of the resulting inflammation that invariably followed the operation before the days of antiseptics. After the antiseptic methods of surgery were introduced the treatment by incision was reintroduced by Volkmann and has since been variously modified by Von Bergmann, M. Julliard and others.

Volkmann's method briefly given is as follows: The hair having been shaved and the skin made aseptic an incision an inch and a half or two inches in length is made over the anterior and lower parts of the sac down to the tunica and all hemorrhage is checked; then the sac is opened and after the fluid has escaped the edges of the sac are stitched to the edges of the incision in the skin. A drainage tube is introduced, the sac is packed with gauze and allowed to heal by granulation, which it will do in five or six weeks. At least two weeks of this time the patient must remain in the recumbent posture with the scrotum elevated. The wound must be washed out at frequent intervals with an antiseptic solution. Von Bergmann modified the Volkmann method by removing all or a part of the parietal layer of the tunica, putting in a drainage tube and closing the incision.

M. Julliard modified this latter method by having a sufficient amount of the parietal layer of the tunica to stitch over the testicle, thus making a new tunica. Others remove only a portion of the parietal layer of the tunica and paint the remaining portion together with the visceral layer with carbolic acid or some other irritating agent with a view to getting an adhesive inflammation, then closing the wound with drainage. By any of these methods the patient is required to keep the recumbent posture for at least two weeks and a final result is not obtained in less than from four to six weeks.

My experiments have been upon the line of an ambulatory treatment with a view to accomplishing a radical cure. The author does not wish to convey the idea that he considers this the best plan to pursue in all cases. We believe that in many cases, especially in children, a cure can be brought about without resorting to the removal of the sac but we believe it is the best method to pursue in all cases in which the removal of the sac is indicated.

The treatment that has been adopted is as follows:

The skin of the entire scrotum having been shaven and rendered aseptic, an incision a quarter of an inch in length is made in the most dependent portion of the scrotum down to the tunica vaginalis, being careful not to open the sac. Then by means of some blunt instrument, as a grooved director, the sac is dissected from the overlying infundibuliform fascia. This is done by inserting the instrument at the point of incision into the cellular tissue space immediately outside of the tunica vaginalis. By sweeping the instrument around the sac through this cellular tissue space the sac is separated from the overlying structures speedily and with the greatest ease quite down to the epididymis on either side. After this has been accomplished the sac may be opened. After grasping a fold of the sac with a dressing forceps the sac is punctured and the contents allowed to escape. The empty sac walls may now be easily drawn through the small incision and divided close to the margin of the epididymis, although it is not essential to the success of the operation that the sac wall be all removed. In cases in which only half of the sac was removed recovery seemed to be as prompt as in those in which it was all removed. The sac having been disposed of, an examination of the testicle is made, if it is deemed necessary, by palpation and inspection. Any granulations or cartilaginous bodies found are removed.

The quarter of an inch incision will now be found to have contracted to less than half its former length, by contraction of the dartos and will require no attention. The incision being in the most dependent portion of the scrotum serves admirably the purpose of drainage.

An important part of this method of treatment is the dressing. The sac having been disposed of, the assistant grasps the testicle and draws it well down, while by means of adhesive strips three-quarters of an inch wide the testicle is strapped, beginning as high as the hydrocele extended and making circular turns around the testicle, each turn overlapping the former one about one-third of its width, until the entire testicle has been strapped, as in a case of epididymitis. No drainage is necessary, as no effusion or hemorrhage will take place; no swelling will or can occur. The patient may be allowed to go about at will and will experience very little pain. The strapping may be removed at the

end of the first week and a cure may be anticipated in two weeks.

The advantages of this method are: It is extremely simple and applicable in all cases. It does not confine the patient to the bed or to the house. In many cases an anesthetic is not required. The dangers of hemorrhage and sepsis are reduced to a minimum. A cure can be anticipated with almost absolute certainty.

133 Lincoln Avenue.

THE BEST METHOD OF STERILIZING CATGUT.

BY I. S. STONE, M.D.
WASHINGTON, D. C.

The following method of preparing catgut has none of the disadvantages which have heretofore prevented the general use of this valuable suture material.

It is unnecessary to wash the gut in ether. The gut (Nos. 0 and 1) is cut in pieces eighteen to twenty-four inches in length, loosely coiled and placed in water for twelve hours at ordinary room temperature, to "swell it." This suggestion of my friend Dr. Kinyoun is a good one, for the obvious reason that the formalin solution will penetrate the more readily into the interior of the gut. I formerly wound the material on glass spools, but soon abandoned the idea, because it became so tightly and firmly contracted around the spool as to render it possible that the formalin solution could not penetrate to the deeper layers of the gut.

The gut is taken from the water and placed in a 5 per cent. solution of the ordinary 40 per cent. solution of formalin found in the shops, where it may remain twenty-four to thirty-six hours. It is then thrown into a jar containing absolute alcohol, where it may remain indefinitely.

The writer can positively confirm Dr. Senn's recent notice of formalin catgut, and can certify that it will be strong and reliable in every way after boiling for ten minutes in water. This simple method leaves nothing to be desired. Anyone can use it, and there is positively no longer any reason to rely upon such material as we find in the shops. Every surgeon can easily prepare his own material, and do so without loss of time. Catgut prepared in this way will be found to meet every requirement in surgery where absorbable material is required. There is rarely any need for catgut in abdominal operations until we are ready to close the abdomen, then the small size *0* or *00* for everything but the fascia. The No. 1 is best for that. In the skin the smaller size will become soft in ten days or two weeks. In the cervix and vagina the material thus prepared will be found eminently satisactory. The small number is the proper one for most operations. In hernia the No. 1 is better and should be allowed to remain rather longer in the formalin solution. I have seen Dr. Edebohl's catgut made strong and sterile after his well known formula, but there is very much less trouble by the later method, and the formalin solution does away entirely with the necessity for bichromate of potash or chromic acid hardening. It is not absolutely necessary to boil the gut, as it gives perfect results without this precaution.

1449 Rhode Island Avenue N. W.

Let us have a Department of Public Health!

THE SERUM REACTION IN HOG CHOLERA.

BY JOHN E. CASHIN, M.D.
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The success which has been obtained in the serum diagnosis of typhoid fever led me to try an experiment with this method as an aid to the diagnosis of hog cholera, an affection due to a motile bacillus, the lesions of which, in the chronic form of the disease, resemble somewhat typhoid fever of the human subject.

Dawson (New York *Medical Journal*, Feb., 7, 1897) reports having obtained the reaction with the blood of a rabbit after inoculation with a bullion culture of the hog cholera bacillus, the reaction appearing promptly after injection.

An opportunity presenting itself a few weeks ago, I isolated the bacillus from an acute case of hog cholera and tested the agglutinating power of the blood serum of different animals upon it with the following result: Human blood serum from the placenta and dried blood from the finger tip, no effect; horse serum, no effect; rabbit serum, no effect; ox serum agglutinated strongly. A trace of ox serum added to an actively motile culture of the hog cholera bacillus caused immobility before the microscope could be brought into focus. Clumping was noted in from one-half to three minutes.

The normal serum of the hog was found to be without effect. The reaction appeared in the blood of two pigs forty-eight hours after the subcutaneous injection of $\frac{3}{4}$ c.c. of a forty-eight hour old virulent bullion culture of the hog cholera bacillus. No signs of illness have appeared in these pigs, except in one case a small abscess at the site of the needle puncture. Nearly a month has elapsed since the inoculation and the reaction in their blood is as well marked as ever. It is still present in a pig which had a severe attack of cholera four months ago. As to the length of time the reaction persists after experimental infection or after an attack of cholera, I have not yet determined; but inasmuch as pigs are usually killed when ten or twelve months old, it would seem reasonable to suppose from what has been observed that it remains during the brief period of existence allowed to most pigs.

The technique in making the diagnosis of hog cholera does not differ from that used in other infectious diseases to which the method has been applied. An incision is made in the skin of the ear of the pig and a few drops of blood collected upon a glass slide or a piece of smooth stiff paper. The blood, if it has been allowed to dry, is moistened with a drop of water and some of it transferred to a cover glass on which has been placed the hog cholera bacillus, either from an agar tube or a bullion culture about forty-eight hours old. The liquids are mixed and the cover glass inverted over a hollow slide and examined with a magnification of 450 or 500 diameters. Fresh, virulent, highly motile cultures exhibit the reaction as well as more attenuated ones, and it appears to me better, when ox serum was used.

It seems this method will be a valuable one to veterinarians and others, enabling them to make a speedy and correct differentiation between cholera and swine plague, anthrax and other diseases of swine during the life of the animal; and that it will be of service in the study and differentiation of the various bacte-

ria which have been described in swine diseases in this country and abroad. One might be able in this way to determine quickly that a specimen of meat, if fresh, came from an animal with cholera.

The following cases illustrate some practical applications of the reaction which I have made in conjunction with Dr. F. T. Eisenman, V.S. A sick pig, belonging to a herd in which there had been two deaths from what was supposed to be cholera, was donated for study. The reaction was not present. Two days later the pig died. At the postmortem examination a fibrinous pericarditis was found, but no lesions of hog cholera. Cultures from the heart, pericardium and spleen showed the staphylococcus pyogenes albus alone. In another case which we examined, and in which the reaction was not found, diarrhea was the most prominent symptom. The pig recovered. This was probably an intestinal disorder brought about by improper feeding.

In four cases examined I have obtained the reaction during life and verified the existence of cholera by postmortem examination.

The clinical symptoms of hog cholera and other swine diseases are very uncertain, and as by early diagnosis often much can be done to prevent loss, this method should commend itself to veterinary practitioners, should further trial show it to be reliable.

ANTITOXIN—SOME MEDICO-LEGAL ASPECTS OF ITS USE.

BY JAMES L. TAYLOR, A.M., M.D.
WHEELERSBURG, OHIO.

In the issue of the JOURNAL of February 27, Dr. Chas. T. McClintock of Detroit discusses, in an admirable scientific paper, one of the most intensely interesting questions now before the medical profession, viz.: the cause of death in hypodermic serum medication. The doctor shows conclusively that the injection of air along with the serum is not an adequate explanation of the reported accidents. He also points out that carbolic acid or trikresol used as a preservative of the serum is still less likely to be causative of these mishaps, and that experiments seem to show that the serum *per se* is not responsible. What the true cause may be, the doctor believes to be at present unanswerable, and prefers to give definite form to our ignorance by calling it "shock."

The profession will certainly not remain satisfied with thus merely giving a name to our ignorance. The phenomena heretofore reported when accidents have occurred, and which so far as we know are liable to be repeated in any injection hereafter made, are too fearfully significant in their effects on both practitioner and patient, to be thus lightly put away.

No other agent now employed by the profession stands in the same category as antitoxin. It holds the unique distinction of occasionally causing sudden death, or an alarming condition of prolonged collapse, when administered to persons in perfect health. The anesthetics do not belong to this category, for they are not employed as therapeutic agents proper. They simply paralyze temporarily the centers of the nerves of sensation, and it is not strange that this paralyzing action should occasionally extend to other centers than those of sensation. The condition of anesthesia is recognized as one of profound danger and its effects are procured with a due sense of the risks involved. But antitoxin which is an alleged remedy *per se* stands upon an entirely different footing. The recognized function of an anesthetic is to annul pain, which it invariably does, while the alleged function of the serum is to overcome disease, and its action in this role is in any case more or less problematical. The fact that its effects are not uniform is what gives us pause. When we can not be sure whether it will elevate the temperature of a patient or depress it, retard or accelerate the heart's action, develop albuminuria or erythema, or pustular inflammation at the site of the injection, or perhaps cause symptoms of temporary paralysis, and occasionally an alarming condition bordering on collapse and sometimes instant death, it is far from satisfactory to be told that the statistics of mortality tables are favorable to its use.

Moreover the physician is always believed by the laity to know what he is using, and what the effects of his treatment will be. He is employed and enjoys the confidence of his patrons because of his supposed expert knowledge. And when he employs an alleged remedy which may kill instead of curing without knowing why, can it be said that the confidence reposed in his expert knowledge is justified? Will it serve as an answer, if, in a given case, an accident should occur, to say that the general results of the remedy and the indorsement of the profession warrant its use? The fact being established that the use of the remedy is sometimes followed by unexpected consequences and even death, would such an answer exculpate the practitioner in case legal proceedings were instituted against him? Not long ago the daily papers reported the arrest of two physicians by a husband for causing the death of his wife by the administration of chloroform. Under proper precautions death in such cases is sometimes unavoidable, and in a sense therefore thought to be legitimate. Could an accident following the use of antitoxin be defended on the same grounds as a death from anesthetics? The medico-legal aspects of the question are of profound interest to every practitioner, and in the present state of our knowledge, no one who makes use of the antidiphtheritic serum can know that he will not be confronted with its unexpected and untoward consequences.

From a scientific standpoint it is greatly to be regretted that where accidents have occurred, a portion of the serum used in that particular injection had not been subjected to a careful examination. A resulting accident is the only experimental proof that can be had of its toxicity in the human subject, and unfortunately, from obvious prudential motives, an examination in such cases is not likely to be made. Hence it is difficult to determine experimentally whether a given specimen of the serum possesses toxic properties or not. Obviously the general practitioner can not make tests of each specimen used for himself. He must rely on the guaranties of purity furnished by the manufacturer, and it is from the use of these guaranteed specimens that all the reported accidents have resulted.

Unfortunate results have been ascribed by some to a supposed idiosyncrasy on the part of the subject. This explanation is manifestly inadequate. As the term idiosyncrasy is ordinarily used and understood, it may account for variable physiologic manifestations, but another term is employed where the unexpected phenomena are associated with sudden death. Idiosyncrasy may be properly used to designate such minor constitutional

peculiarities as fainting at the sight of blood, or at the scratch of a vaccination, or a hypodermic injection. But these effects are as transient as they are sudden. Even where unexpected and unusual consequences are more prolonged, as when laudanum purges, or watermelon causes hoarseness and nausea, or green tea acts as a powerful diuretic, or mercury produces ptyalism, there is in these cases no menace to life. But when an agent acts upon the nerve centers with the rapidity and energy of concentrated hydrocyanic acid, the term to be used here, we submit, is not idiosyncrasy. Such effects can be produced only by a virulent poison. Indeed the action of the serum in these cases more nearly resembles, than anything else, the effect produced by serpent venom in instantly overpowering the nerve centers when injected in relatively large quantities into the smaller animals.

It seems to me that a much more rational explanation of the ill effects of the serum may be deduced from the fact that it is an animal product, and like all other animal matter has a tendency to undergo change. Indeed the manufacturers of it admit that age changes its composition and diminishes its immunizing power. If it undergoes change therefore, in this respect, how may we know that it does not become profoundly altered also in other particulars? How are we to know that the carbolic acid or trikresol employed to preserve it has in every case done its perfect work, and that some portion of the fluid, even a minute quantity of it, may not have degenerated in the direction of putrefaction? Now it is quite conceivable that a change of this kind should produce exactly the ill effects heretofore noted. If a scratch at the dissecting table induces blood poisoning, what might we expect from the introduction of a quantity of effete matter directly into the blood current?

Whether the use of even a recently prepared serum would in no case be attended with ill consequences may be considered as yet unsettled. Observations as to the physiologic action of antitoxin are too conflicting to warrant conclusions. The fact that it does not neutralize the diphtheria toxin, but stimulates the cells of the body to more effective action, throws no light on those cases where pernicious effects have followed. Dr. McClintock is undoubtedly correct in holding that as to the real cause of these exceptional cases we are still in the dark. But when an agent so perfectly simulates a virulent poison as antitoxin sometimes does, are we not driven to the conclusion that the specimen responsible for that action is a poison? And if there is no means of detecting its toxic nature are we justified in recommending and using as a remedy an agent in which such danger lurks? This question is not raised here as an ethical conundrum or a speculative supposition. It is a problem of intense interest by reason of a horrifying accident having occurred within our cognizance as the readers of the JOURNAL know, and no physician using this remedy can be sure that the same misfortune may not overtake him.

There is another aspect of this question which would seem to merit more consideration than it has heretofore received. When the ill effects of the serum are exhibited in a fatal termination or in the sudden supervention of alarming symptoms, its injurious nature in those particular cases is sufficiently obvious. Now is it conceivable that these gross and pronounced manifestations are the only bad effects following the use of the remedy? Is it according to any analogy with which we are familiar to suppose that a given therapeutic agent, where it does not kill, will be likely to cure? On the contrary is it not in a manner certain that in a lesser degree there may be any number of gradations in the less obvious ill effects following its administration? Whatever the toxic element may be, is it not reasonable to infer that there may be every degree of variability in the activity of the toxin between the innocuous preparation and that which acts with deadly effects? On what principle can it be assumed that in all cases where it does not endanger life, it of necessity acts in the opposite manner? The only answer that has been given to this question thus far is—statistics. No man can be absolutely sure that any given case of diphtheria where antitoxin has been used would not have recovered without it. For sometimes, as every physician knows, the most desperately malignant cases apparently, recover unexpectedly under the usual methods of treatment. While cases that do not seem so desperate often succumb notwithstanding its employment. So the question again recurs—are statistics a logical basis for determining upon a mode of treatment involving the use of an agent of acknowledged danger?

The serum treatment, as a theory, in view of its splendid possibilities, is one of the most captivating that has ever engaged the scientific mind. Medical men all over the world have watched its rise in almost breathless expectancy, feeling that such a magnificent generalization deserved to be true. And there is no right minded man but would rejoice if its highest claims could be substantiated. The reported casualties therefore attending the treatment have been received in the nature of a profound disappointment. The writer hereof has used the serum in a number of cases, at first with confidence begotten of the sanction extended to it by great names, but more recently with fear and trembling, and never without the expressed authorization of the legal custodians of the patient.

But for one to be thus driven, through motives of self-protection in case of accident, to refer the decision of so important a matter to a family necessarily without expert knowledge, is a unique and most unsatisfactory position to be occupied by the physician. Yet this is the attitude now invariably assumed by a number of physicians in this region, and no doubt by many others of the profession elsewhere. Hence an authoritative decision, if in the nature of the case one could be had, determining ones rights to employ antitoxin as a legitimate remedy, would be hailed as a desideratum. No doubt the matter will finally come up for adjudication, but in the mean time we are all hopeful that the occasion for it will not spring up out of the circumstances of our own practice.

THE AUSCULTOSCOPE OR PHONENDOSCOPE VS. THE BINAURAL STETHOSCOPE.

BY CHARLES DENISON, M.D.

DENVER, COLO.

I am asked my opinion of these new-fangled affairs I have tested them enough to know that they can never supersede the stethoscope, if the latter is properly constructed.

The auscultoscope bell gathers the sound from too large an area, as large as would the bell for stethoscopic percussion which belongs to my stethoscope, diameter three inches. The sounds are thereby con-

fused and not differentiated as they should be. To use the auscultoscope is too much like putting the whole side of your head against the chest wall. This confusion with an admitted exaggeration of impulse sounds, as are the heart sounds, is a positive hinderance to any one who has been used to getting definite information out of a stethoscope. I do not believe it is any credit to a physician to be or appear to be satisfied with any such uncertain and mixed-up results.

If the area of impingement of the bell against the chest wall were one-half or one-third this size, and then this bell were used in a nearly perfect transmitting instrument such as the last make of my stethoscope, by the Denver Surgical Instrument Company, then the exaggeration of sound would be in a degree corrected by definite transmission, which those little, long, soft-rubber tubes can never possess. Even then the sound will be perverted by the vibrations of the diaphragm of the phonendoscope. The kind of a sound needed is an accurate representation, clear and distinct, not some perversion which has to be dissected to get at the real thing. It calls in question the acoustic acuteness and diagnostic proficiency of many self-satisfied physicians to see the useless combination of little pipes and soft-rubber tubes which, under the name of "stethoscope," they carry in their coat-tail pockets. I feel like urging them to put their cheap affairs to the same test I put my own stethoscope several years ago, when comparing it with all those of English or any other make to be found at Down Brothers in London. It is this: Place a watch on a glass counter or any table and cover it with the palm of the hand, while with the other hand you press the bell of the stethoscope firmly on the dorsal surface. If the two bells of the instruments being compared can not be equally imbedded in the flesh so as to alike exclude the outside air, then put the back of the hand on the watch and press the bells in the palm while you listen to the watch ticks. The best results under such conditions—clearness, distinctness and naturalness of sounds—determine the best instrument for cardiac and lung examinations. There is here plenty of reverberation and exaggeration of the watch ticks to make this a very delicate test, especially with weak-ticking watches. At the same time the conditions, as to passing sound through bone and flesh, are very similar to the detection of valvular sounds and murmurs. It is a fair and delicate test by which any physician may gauge the accuracy of his own instrument. Measured by this test, the auscultoscope or the phonendoscope (practically the same thing), even with their too large area of impingement unaccounted for, are not "in it" with my stethoscope with the medium-sized bell. Whether the principle of the auscultoscope can be incorporated in a modified instrument, having a smaller bell and perfect transmitting arms, in a way that undue drum-like reverberation will be displaced by naturalness remains to be seen.

CERUMINOSIS OBTURANS.

BY LEWIS S. SOMERS, M.D.
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The ceruminous glands of the external auditory canal secrete small quantities of a semi-solid, light yellow substance, called cerumen or wax. The secretion is produced in such small amounts as to be unnoticed and by the action of the lower jaw is propelled toward the exterior of the canal, entangling small foreign substances and to a certain extent protecting the deeper and more delicate structures. If for any cause the secretion of cerumen is increased in amount or by osseous or other changes, the configuration of the canal become altered; this outward movement is restricted and the cerumen being retained, undergoes change producing the condition known as ceruminosis obturans, or more commonly called impacted cerumen or wax plug.

The size and density of the cerumen mass varies with the secretory activity of the glands and the length of time which it remains in the auditory canal. The increase in size is gradual, depending to some extent upon the location of the foreign body forming the nucleus, or the small amount of inspissated cerumen acting as such. If this foreign body irritates the glands by its immediate relation to them, there will be an increased secretion poured forth, rapidly augmenting the original body in size. The condition is seen most frequently in adults, especially after the age of twenty years. Sex does not seem to exert any influence as a causative agent, the cases seen being about evenly divided between the sexes, although the males slightly preponderate.

The pernicious habit of cleansing the ear with a small sponge or ear spoon is responsible for a large number of cases; the patient endeavoring to remove the small particles of offending material, only succeeds in pushing particles of wax beyond the isthmus of the canal, where it lies acting as a foreign body finally requiring skilful measures for its removal. Children are very apt to insert buttons, small pieces of paper and various other foreign bodies into the ears and forget all about them; probably ten or twenty years later sudden deafness will take place due to a cerumen plug with the foreign body as a nucleus. Some cases are undoubtedly neuro-trophic in source, due to excessive glandular secretion from a purely nervous origin. It has been claimed that the condition is most frequent in those liable to free perspiration, especially of the head; this seems doubtful, but may indirectly be an etiologic factor by associated trophic changes. Most frequently the condition has been seen in my experience, in those in which the entire glandular system was most active and especially in those of dark complexion.

On examination of the removed cerumen it will be found to contain scattered through the mass and especially over the surface, vegetable spores, epithelial cells derived from the canal walls, various kinds of debris and in many cases a foreign body forming a nucleus. The pressure of a large cerumen mass on the canal walls or membrana tympani may produce widely varying results. When the plug is very large in size and remains in situ for a long interval of time, inflammation and atrophy of the canal is apt to take place and finally chronic ostitis occur, resulting in obliteration of the posterior wall and mastoid cells with a true osseous sclerosis, the bone becoming of ivory-like hardness. Or a desquamative inflammation may result with bony changes and large dilatation of the canal walls, especially the posterior. The membrana tympani may become inflamed from pressure and even perforated, resulting in morbid changes in the middle ear, which if infected and suppurative otitis results may occasion serious damage. Occasionally the cerumen will adhere in part to the

tympanic membrane, which during removal, unless great care is exercised, will be ruptured.

The symptoms depend upon the size and location of the plug and may conveniently be divided into local and reflex. A large concretion of cerumen may exist for years and produce no symptoms, while minute particles of wax adhering to the drum membrane may produce intolerable discomfort. As a general rule, the disease exists for a considerable period of time without the knowledge of the patient and may only be discovered accidentally, especially after swimming, or come on suddenly after washing the ears, the patient thinking from the sudden deafness or feeling of "stuffiness" present that water has gotten into the ear. The usual local symptoms are partial or complete deafness in one or both ears, a feeling of "stuffiness" referred to the auditory canal, tinnitus and rarely autophony and pain.

Occasionally there may be a feeling of tension in the head almost amounting to actual vertigo. The degree of impairment of hearing depends upon whether sound waves can pass through the canal or not, this varying with the size of the obstructing mass and degree of adherence to the auditory walls. Tinnitus seems to result from two causes, atmospheric pressure changes due to the obstruction to the free change of air in the external canal and secondly to the pressure exerted by the mass on the blood supply of this region. Autophony occurs when the cerumen plug is very large and entirely obstructs the canal, and is usually observed unilateral. The amount of pain will depend upon the degree of irritation exerted by the wax on the soft tissues of the wall; the pressure may be so great that from simple irritation and congestion we may even have ulceration, the morbid secretions being pent up increasing the discomfort of the patient.

Sudden onset of the symptoms may result from picking the ear or from a sudden jar or concussion, such as a blow over the auricle. In many cases the symptoms come on very gradually, the patient complaining only of a slowly increasing deafness for six months or a year. McBride has reported an interesting case in which there was gradually increasing impairment of hearing due to a cerumen plug, which when removed rendered the loss of hearing much worse; the mass acting as an artificial drum, the membrana tympani having been perforated.

The reflex symptomatology is varied in character and may be dismissed in a few words. As the canal is profusely supplied with nerve branches from the adjacent trunks the variability of the reflex phenomena may be readily explained. Among the more prominent reflex symptoms reported are neuralgia, numbness along the course of the nerves, cough peculiarly hard and spasmodic in character, varied mental disturbances, epileptiform attacks, sneezing, facial paralysis and blepharospasm. These reflex phenomena are comparatively rare, although cough is more or less frequently seen. Some cases where the cerumen obstruction is unilateral present changes in the well ear; these changes have not been thoroughly studied, but are usually due to over stimulation of the nerve apparatus of the well ear, this side doing a compensatory work becomes fatigued, as it were.

The diagnosis of the condition can only be made by a visual examination of the auditory canal. Under proper illumination the mass of cerumen will be seen lying in the canal or entirely filling it. If the condition has existed for a limited time the cerumen will be seen as a brown sticky mass, and if of long duration will be hard and black, or grayish-black in color, the lighter gray color depending upon the amount of desquamated epithelial cells present.

Treatment consists in the removal of the cerumen and attention to any pathologic changes that may have taken place as the result of its presence. Removal may be effected immediately after the diagnosis has been made, or, if the cerumen is very hard, may be postponed until softening of the plug has been effected. The best policy is to remove as soon as possible, as there may be some morbid changes such as an acute or purulent otitis present, and if solutions are instilled into the canal to soften the mass, serious damage may result. About the only class of cases in which removal may be postponed are those where the wax is extremely hard, the patient nervous and an unsuccessful attempt made at removal. In these cases a solution of carbonate of soda in water, or glycerin, or a spoonful of warm water is dropped into the ear for several successive days, when removal can be easily accomplished.

In the majority of cases the mass may be readily removed by syringing. The stream of warm water is directed against the canal walls successively so as to effect dislodgement. If this method is not effectual, a dull curette or ear spoon may be used carefully, to remove small pieces of the cerumen until the canal is clean and free. Extreme care must be exercised in using any instrument in the ear, to avoid injuring the walls, and especially the membrana tympani. In using the dull curette the topography of the parts must be kept in mind, remembering that the upper and posterior parts of the tympanic membrane are nearer to the external meatus than the lower and anterior portions. Should middle ear disease be suspected, with perforation of the drum, mild antiseptic solutions, such as 1–10,000 bichlorid of mercury are indicated, instead of the ordinary fluids used in the syringe. If an external otitis exists, or the canal is unduly sensitive, the central portion of the plug should be taken away with the curette, avoiding the walls as far as possible. After this portion has been removed and a mere shell of cerumen remains adhering to the walls of the canal, gentle syringing will readily remove the rest of the material.

As rare results of the removal of large masses of the cerumen, have been reported rupture of some of the small vessels of the canal, with the formation of a hematoma; or long pressure, diminishing the tonicity of the vessel walls, transudation of serum into the middle ear has occurred. If efforts of removal are long continued, or traumatism inflicted on the canal, hyperemia, inflammation or even furunculosis may result.

After removal of the cerumen mass the membrana tympani will generally be slightly congested, especially over the area of the manubrial plexus. This will disappear in a few hours and need occasion no alarm. The after-treatment consists in inserting a pledget of cotton in the meatus and directing the patient to remove it in twenty-four hours. Should the canal wall be inflamed the case is then treated as one of external otitis.

A LEGACY TO A NEW YORK HOSPITAL.—The treasurer of the German Hospital, New York city, has received a bequest of $10,645 from the John Roth estate. The executor added a personal gift of $50 for a tablet in memory of Mr. Roth.

SOME AMUSING INSTANCES OF NASAL REFLEX.

Read before the American Laryngological, Rhinological and Otological Association in New Orleans, March 3, 1897.

BY ARTHUR G. HOBBS, M.D.
ATLANTA, GA.

It was not without some misgivings that I thus christened this little paper, because some might regard it as a too flippant manner of approaching so scientific a subject as nerve reflexes; a subject fraught with such subtilties and as yet so suggestive of unknown quantities. Also because there may be others who can never look upon nature's phenomena as amusing, however, vagarious and unexpected they may at first appear.

While these instances of nerve reflex manifestations that I have dared to call amusing are no more wonderful than many others somewhat similar but more familiar to us all by reason of their frequent occurrence, nevertheless for this very reason, together with the particular organs involved, many of us at first can not avoid seeing the ludicrous side, however easy the scientific explanations, by analogy, may seem. Familiarity with frequent recurrences of nature's perversions does not breed contempt, but it does dull the sense of the ludicrous. Still, I have a feeling even now, that I should have said: "Some Interesting Instances of Nasal Reflex." If they are not *amusing*, I can hope that they may be at least in some degree, interesting.

I had never seen but one case of priapism, and that was in 1879 during my term in the New York Hospital, until by accident the second case came under my observation in 1888. A young cashier was driven from his rooms to my office in a close cab wearing an overcoat on an August day. He had been confined to his rooms more than two days with a painful attack of priapism for which he said he had run the gauntlet of all treatments, from hot and cold water locally to salines, opium and apomorphia internally, without any effect. He looked haggard and pale and in many ways the results of his great suffering were plainly shown. The object of his visit to me was to be relieved of an acute rhinitis accompanied with an almost complete nasal stenosis. I sprayed the nose slowly but persistently with a solution of cocain in albolene until the engorged turbinal tissues relaxed sufficiently, within about five minutes, to allow a comparatively free passage of the spray through both nares. About this time, with an expression of great joy, the young man exclaimed: "Doctor, not only is my nose free, and I am relieved there, but see! it has all gone down, and I am perfectly easy." His cocain exhilaration was scarcely perceptible, and indeed I would not have recognized any but for my anticipation that there might be some. As the nasal turgescence disappeared so did a complete relaxation in the principal organ of erectile tissue follow. How singular it was that a second case of priapism should have followed in the latter part of the same year, and yet in the nine years that since passed I have not seen or known of another case. This second case—a young man aged about 22—was in many respects similar to the first, except that he had suffered only intermittently, but during a longer period, five days. And yet his relief lasted only during a decided opium narcosis and pain gradually returned when the effect of the narcotic began to decline. His exposure to frequent applications of hot and cold water had probably caused the acute aural catarrh, with a moist and stuffy nose, notwithstanding the large amount of opium he had taken. The subjective symptoms of pain and tinnitus together with the visibly retracted drum membrane suggested a nasal spraying with the same cocain solution in albolene, that I had used in the first case, before inflating. This young man had come to me for his aural and nasal troubles, and I was not aware of his priapism until after I had relieved it indirectly. His exclamation of delight was as prompt and no less decided than the cashier's. I saw both of these cases several times during the succeeding two or three days. There was no intimation of a return of a priapism in the first case, and in the second, only in a slight degree several times.

The soft tissue that covers the turbinal processes is not histologically dissimilar to the corpora cavernosa, hence the question: Was the distal effect by reflex, or through the direct systemic influence of the cocain on the arterial constrictors? Would cocain have produced the same result during its exhilarating stage had it been administered otherwise?

Although I have been using cocain constantly from the early eighties, indeed since I received a consignment of a part of the first half ounce imported from Koller's laboratory, I did not know as much of its potencies, nor did anyone else then, as the novice thinks he knows now. Yet will our present knowledge of the therapeutic properties of this drug explain how it effected these results?

I casually mentioned these two cases of priapism before the Atlanta Academy of Medicine about seven years ago, in a discussion on an allied subject, but do not remember that my remarks were ever published.

An unaccountable sneeze is produced in some persons merely by an erotic thought when accompanied by the desire and the anticipation of its fruition. All whom I have questioned upon this point say that the sneezing reflex passes off long before the usual and more important erectile area has been stimulated to its full limit of distention.

I do not doubt, from the accidental way in which some seven or eight such instances have come to my knowledge, that many more men are endowed with this faculty than we know of. From the descriptions it is characteristic and quite unlike the sneeze that first announces a cold.

A gentleman once described his own case to me more graphically than I can repeat it. While walking, he said, one evening arm in arm with a lady, his wife who was but a short distance in the rear was surprised at hearing a succession of sneezes that she first mistook for his characteristic sneeze, with which she thought she was quite familiar; but later on she was amused and no doubt delighted too, when she realized that what she had heard was only the ordinary commonplace bad cold sneeze (?) that any man might, unfortunately, contract at the wrong time. A young man has confided to me that he was constantly mortified and placed at his wits end in making excuses to his sweetheart on account of his susceptibility when with her, to drafts (?) that she could in no way discover.

Several men, with my encouragement, finally acknowledged that this little tell-tale reflex had been their principal cause for consulting me. A prominent physician very graphically described his own experience with these dual reflexes. It came to him so insidiously, he said, that he could scarcely realize it. Indeed his wife had become quite familiar with

the characteristics of his forerunner long before he would himself acknowledge it.

None of the means that are ordinarily resorted to can suppress this sneeze; it simply means to announce that "Barkis is willin'," or would like to be, at least, that such an idea exists in the brain of its victim whether or not it can be properly and effectually reflected.

In all of the cases without an exception it would appear that the effect on the sneezing area has come and gone before the mental reflex stimulus has had time to reach its usual result of erectile perfection. A sneeze is one of the most typical examples of a nerve reflex and while the neurologist can only construct a beautiful theory to explain its incentive and conductive factors, pathologists agree that the final result is brought about by the swelling of the erectile tissue covering the turbinal bones. The histologic similarity between the turbinal tissues and the corpora cavernosa is quite sufficient to cause no sense of wonder or surprise when a mental impression that excites one should also excite the other even within pathologic bounds, although we are accustomed to regard the one as an entirely physiologic function and the other as distinctly pathologic.

The instances just cited prove, however, that it is only the turbinal tissue that possesses the dual capacity of responding to either a physiologic or a pathologic stimulus, also that its response to a mental stimulus always precedes the more important effect below and is lost before the distention of the corpora cavernosa is complete. It may be answered that a priapism is a pathologic condition and yet its beginning is physiologic.

Is it not fortunate too, that every time we get our feet wet the reflex result on this lower and larger erectile area is not the same that is so often produced on the turbinal tissue by an over stimulus from an external source?

It has not been my intention to treat this subject lightly. It is too closely allied to one that men generally, I believe, do not disregard, "with but a single thought." But seriously, I do think the paper could be more appropriately read before a section on neurology, unless we can claim that rhinologists can be neurologists too, at least in some particular directions when they choose.

I would be glad to receive a short history from any one of any case apropos to this subject of reflexes, and will promise to give due credit to the writer in a future, and I hope more comprehensive paper.

P. S.—During the short interval since I read this paper I have been much gratified by receiving a number of letters from those who have seen its first epitomized report; many of these letters contain promises of short reports to me of cases either bearing directly on, or closely related to, the subject of *erectile tissue reflexes*. This subject is an evolution (so far as it has evolved) of the last six or eight years, and is not one of my choosing. Yet I confess a desire *now* to evolve it still further, if I can obtain sufficient data.

A METHOD OF PRESERVING UNBOUND LITERATURE WITH SUGGESTIONS REGARDING A SYSTEM OF CLASSIFICATION.

BY D. H. GALLOWAY, PH.G., M.D.
CHICAGO, ILL.

Probably the majority of physicians regard the unbound literature in their libraries as an unmitigated nuisance. They may see much of interest in this literature when received but the liklihood of being able to find it again when wanted is so remote that it is generally consigned to the waste basket. Any plan which will rescue this material from the waste basket and make it useful ought to be received favorably by every one who has realized how difficult the subject is. The problem of preserving unbound literature, so that it is available for convenient reference, is so difficult of solution that few attempt it and those few usually get swamped before the amount of material becomes very great.

A system to be valuable, must conform to the following requirements:

1. The scheme must be so simple that it can easily be carried in the mind and it must require the minimum of labor to establish and to keep it up.

2. Each article or subject must be accessible without delay or inconvenience and without handling or interfering with any other material which is not wanted.

3. The different articles on any subject must come together so that everything on that subject can be obtained as easily as any portion of it.

4. It must be capable of unlimited expansion so that all new material falls naturally in place beside that already in hand on the same subject and so that new subjects may be introduced without interfering with the previous arrangements.

5. The arrangement must be compact; so that the library occupies no unused space. A hundred titles should occupy no more room when they constitute the entire library than they do when included in a library of 10,000 titles.

6. Every article or pamphlet should be a unit and capable of separate classification and of being moved independently of all others. The only exception to this being pamphlets or articles having exactly the same title.

Since the material is so easily damaged or destroyed everything in this library should be protected from injury and even wear, when not in actual use.

I have a system in use in my own library which, while not altogether unique, is entirely original with me. It conforms to all the requirements outlined above and as I know there are many who have felt the need of such a system, I have thought it worth while to publish mine. This system is applicable to any kind of literature and I carry it into all the realms of science included in my library. Unbound pamphlets of all kind are put into large envelopes and each envelope is treated as if it were a book. These envelopes may be sandwiched in with other books on the library shelves or they may be assigned to a section by themselves. I prefer the latter, thus drawing a sharp line between the bound and the unbound library. With this short statement of what I have done in my own library, I will go into the details of my work so that others wishing to do likewise may be saved the great amount of experimental work which I went through before the difficulties were overcome and the system made satisfactory. After many changes and much experimenting, I have selected an envelope $6\frac{1}{2}$ inches wide by $9\frac{1}{2}$ inches long, open on the side and made of manilla paper. The paper should be heavy enough to handle easily and should be tough, so that it will not tear readily; it should be as light as possible, consistent with these two requirements. I have been unable to buy, in the market,

envelopes that were entirely satisfactory, and recently had a lot made for me at an expense of $3.75 per thousand, but when delivered, these envelopes were so irregular in size as to be unsatisfactory. In this great city of manufactures I feel sure that there is some one who can make them and make them right and I intend to keep looking until I find that person or firm.

The envelopes should have a flap, but be ungummed. I have bought and used gummed envelopes but after some experience with the flaps sticking in hot and damp weather, I took the trouble to wash the mucilage of the rest until I was able to get an envelope ungummed. Ready made envelopes are always gummed.

Now for the preparation of the material which is to go in the envelopes. The ideal form in which to have the literature for this method of classification is the "reprints" of articles which are obtained and distributed by many persons who write for medical journals. While these vary greatly in their value as contributions to medical knowledge and still more in their value to any particular individual, I carefully preserve every one which is sent to me. I also do another thing which is unusual and that is, acknowledge the receipt of them.

As a rule journals pay nothing for contributions from medical men, some give a few hundred reprints in lieu of other compensation and this would seem the least return any of them could make to the author. Since these reprints go only to the profession there can surely be no valid objection, from an ethical standpoint, to their distribution; for my part I would like to have in this form every article which interests me. Since however, not all articles of value are available in this form some other way must be devised for obtaining them. Of course a complete file of all the journals subscribed for, if bound and accompanied by a card index which has been very carefully made and conscientiously kept written up to date, will render available all that they contain. I prefer however the method I employ, which has many advantages and some disadvantages. The advantages will be obvious, the disadvantages I will point out as I proceed. When a journal comes in, I look through it reading all the articles that interest me and then put a check mark on it indicating that it has been read. When I have a little time to spare I take these up one at a time, take out the binding wires, and throw away the advertisements. Then selecting the first article which I wish to preserve. I tear out the leaves containing it and fasten them together at the back with two scraps of gummed label cut for the purpose, and used like a hinge, or instead of the label, small pieces of isinglass plaster. This keeps the leaves together and the articles may be piled up and handled without disturbing the order of the pages or losing any of the leaves. In this way all the original articles are disposed of.

There is one difficulty with the plan which immediately presents itself; one article will end and another begin on the same leaf. Usually one will not be wanted or the least desirable one will be sacrificed. If one of the articles begins a few lines from the bottom of the leaf, or the other ends a few lines from the top of the same leaf, I copy these few lines on the typewriter and thus save both. Or if there is too much to make that practicable and both are of value to me, I make a reference on the bottom of the page stating where the remainder of the article can be found. This can not be done often, or much of the value of the system will be lost. If a large number of doctors should adopt this scheme there are some improvements in the journals which publishers might be prevailed upon to make which would obviate this objection. Paper is very cheap and postage is almost nothing, still I do not suppose they could be persuaded to leave a part of a leaf blank where one article ended and begin the next one on another leaf. There are some publishers who do this now, particularly in reports of scientific societies. There are in every journal a large number of small items which are of transient interest and they might be used to fill up the waste space; such an arrangement would improve the make-up of the journal. But until publishers are convinced that a large number of their subscribers desire such a change, we will probably be obliged to make the best of things as they are.

On every article, I write the name and date of the journal from which it was taken; this of course is unnecessary where that information is printed at the top of the page, as it is in some journals, and ought to be in all. The articles of a journal may thus be prepared for classification in less time than I have taken to write the description of it. If the journal is magazine size, the pages will be the proper size to go into the envelopes; some may need a little trimming. For this purpose I have a board a foot wide and two or three feet long, a shoe knife with a shoemaker's sandstone on which to sharpen it and a straight edge of wood. The latter may be a thin strip of hard-wood flooring about two feet long. I lay the leaves on the board and trim to the size of a card-board pattern $6\frac{1}{4}$ inches wide and $9\frac{1}{4}$ inches long, using the straight edge as a guide for the knife. Leaves from the double column journals of a larger size like the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION must be folded once.

There are many small items in the back part of all journals which are worth preserving; such as I want are cut out and classified in the same manner; these may be pasted on pieces of manilla paper and the paper folded the proper size to go in the envelopes, under the appropriate subject. Many will object to "destroying" their journals, and where complete files are kept, bound and indexed on cards, it may not be desirable to do so. This scheme is intended to supplement the ordinary library, not to displace it. There are many articles in the literary and scientific magazines which I wish to preserve and by doing it in this manner I have them all where I can lay my fingers on any of them at a moment's notice, and with bulk and weight reduced to a minimum. The pamphlets, articles and clippings being cut, folded or pasted on paper the right size, must be classified before they are ready to go into the envelopes. The decimal classification originated by Mr. Melville Dewey and published by the Library Bureau of Boston, is at once the simplest and most comprehensive system with which I am acquainted. This book costs $5, and it is almost a necessity in any library. By this method all knowledge is divided into ten classes as follows:

0. General Works. 1. Philosophy. 2. Religion. 3. Sociology. 4. Philology. 5. Natural Science. 6. Useful Arts. 7. Fine Arts. 8. Literature. 9. History.

Each class is separated into ten divisions, each division into ten sections, and each section into ten subsections and so on, each subject being divided into ten to any limit desired. After the first three

figures the number is a decimal fraction. Medicine is classed with the useful arts, 600, and occupies the numbers 610 to 620, divided as shown in the following table.

610. Medicine. 611. Anatomy. 612. Physiology. 613. Personal Hygiene. 614. Public Health. 615. Materia Medica. Therapeutics. 616. Disease. Pathology. Treatment. 617. Surgery. Dentistry. 618. Gynecology. Obstetrics. 619. Comparative Medicine. Veterinary.

In classifying, one can see at a glance into which division an article goes, and with a lead pencil put on the appropriate number. All articles on medicine in general and not treating of any one division more than another are marked 610. In beginning such a classification with a large number of titles to work on, it is better to go through the whole lot, putting on the numbers thus far. Then sort them into ten piles, numbering from 0 to 9 according to the last figure. Tie up and put away all but one lot, take this lot, say Anatomy, 611, and go through it as before, this time putting a decimal point after the number already there and add a decimal number in the following manner:

611.1. Circulatory System.
611.2. Respiratory System.
611.3. Digestive System.
611.4. Glandular and Lymphatic System.
611.5. ———.
611.6. Genito-urinary System.
611.7. Motor and Integumentary System.
611.8. Nervous System. Sensory Apparatus.
611.9. Regional Anatomy.

Now separate this lot according to the last figure, wrap up and label all but one of the divisions (this is to prevent mixing when the work is to be done at odd moments) and classify this division still further. Each paper of this lot now has the number, say, 611.8 and is further classified as follows:

611.8. (Anatomy of the Nervous System. Sensory Apparatus).

611.81. Brain and Meninges.
611.82. Spinal Cord and its Meninges.
611.83. Nerves.
611.84. Sight.
611.85. Hearing.
611.86. Smell.
611.87. Taste.
611.88. Touch.
611.89. Ganglia.

Many subjects, even in a private library, will require a third decimal and in some cases even a fourth. The classification can be continued in this manner to any degree of fineness which individual taste may suggest but it is not advisable usually to go beyond three decimal places.

When no further classification is necessary or desirable, the papers are ready to be put in the envelopes. Now separate the lot as before into smaller lots to correspond with the last figure of the number, put all the papers having the same number into the one envelope and put that number on the outside of the envelope in the upper left hand corner. If there are too many papers to go in one envelope use as many envelopes as may be necessary. It is not necessary to put more than the number on the envelope, but if desired the names of the authors of the various articles it contains may be written on the outside. I lay the envelope on the desk before me, back up, with the open flap toward me, write the number in the upper left hand corner, put in the material and tuck in the flap. The envelopes are then arranged on edge on the shelves in the book case, flap down and number to the right and in strict numerical order, the short way of the envelope vertical. All book cases are ten inches or more in depth and this allows the shelves to be placed seven or eight inches apart and the case will hold many more envelopes than it would if they stood on end. In arranging the envelopes on the shelves it is convenient to have some contrivance to prevent them from falling down. For this purpose I got a tinner to cut for me some pieces of galvanized iron ten inches long and three or four inches wide, and bend them in the middle to a right angle. One of these on a shelf with the end shoved under the envelopes will prevent their falling down until the shelf is full. An index is made of strips of card board an inch wide and an inch longer than the envelopes, shoved in between them and the appropriate number written on the projecting end; but few of these are necessary. The cataloguer meets with a number of difficulties which ought to be corrected. In the publication of articles which have been read before a society and discussed by the society, the paper and discussion appear in separate places; it would be better if the discussion should immediately follow the paper in the journal.

The authors' post-office address should be appended to the article. "Dr. Smith, N. Y.," is not enough. Authors should be careful to select such titles for their papers as will give some idea of their contents; one does not wish to read an article in order to find out the subject. It is difficult to index a paper with such titles as "Study of a few Suggestive Cases," "An Interesting Case," "A Surgical Fad."

All discoveries and improvements in medicine and surgery are first announced in the periodicals. Textbooks are scarcely out of the press before they are "back numbers." Details of original investigations seldom appear anywhere but in the medical journals, and if a doctor would keep abreast of the profession he must read them and not books alone; the one who depends on books will always be several years behind.

The capacity of the average brain for detailed information is soon reached, while the extent of the knowledge a professional man needs to use at one time or another is almost limitless. Since at best no man can have at command in his brain all the knowledge he must use, the best education is the one which enables him to find any available information when he has use for it. Any one who makes a lumber gallery of his mind, trying to crowd into it everything he can pick up, will soon find that his brain is not the workshop it ought to be.

Comparatively few men know the capabilities of their own libraries, and fewer still have any idea how to avail themselves of the vast storehouses of knowledge placed at their disposal in the great libraries of the country. The man who will classify and index his own library will find that he has introduced into the workshop of his mind an instrument of great power, for that itself is an education. If he will preserve in some such manner as I have outlined, the unbound literature which comes to him for almost nothing, his library will be doubled and his ability to profit by its contents will be more than doubled. The fascination of the work is so great that when well begun there is little danger of its being abandoned, for it will be found a pleasure rather than a task.

For twelve years I have used the envelope system for preserving scraps of information on all sorts of subjects, particularly personal ones. A drawer in my desk is divided into four compartments and in these, standing on end, are more than a thousand envelopes (6½) containing all sorts of imaginable information, from teachers' certificates and college tickets to duplicates of ballots voted at various elections and clippings from newspapers and scientific periodicals. After filling some half-dozen scrap books, I found the material so inaccessible as to be next to useless. The envelope system is better than an index rerum for all things that will go into envelopes, for when the reference is found the material itself is at hand. I have kept a diary for over twenty-one years, and there is an entry for each and every day during that time. This record is a log-book rather than a diary, as that term is generally understood. In another book I have an accurate account of all earnings and expenses since I have earned and spent money; I have the name of every person who has paid me money since I began earning money. In one place I have listed all the trips I have made on the railroads during my whole life, with the distance in each case and the total number of miles. In one place the names of all my patients and the names of those to whom I have administered anesthetics.

With lifelong habits of keeping accurate accounts and much experience in all sorts of methods for making available information regarding persons and things, I have come to the conclusion that the envelope system is the most nearly perfect that has yet been devised.

200 Oakwood Boulevard.

SURGERY ONE HUNDRED YEARS AGO.

AN HISTORICAL STUDY

BY DR. GEORGE FISCHER.

DEDICATED TO THE GERMAN SURGICAL ASSOCIATION.

TRANSLATED FOR THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION BY CARL H. VON KLEIN, A.M., M.D.

CHAPTER IV.—NOTICE ON HOSPITALS.

(*Continued from page 738.*)

In respect to the number of patients the Hôtel Dieu in Paris stood first, the General Hospital in Vienna second. The mortality was also greatest in the first mentioned hospital, so that, with the Berlin Charité, which held the second place; it had the reputation of a den of murder. One-third of all the mortality in Paris was in the hospitals, and one out of five patients in the Hôtel Dieu died. Trephining was no longer done there, for in forty years among a large number of operations, not one case had been successful. Tissot believed that without doubt fewer sick would die if they were allowed to lie under the blue sky and given only fresh water, since the hospital air alone could make every slight wound fatal. The mortality in the Vienna hospital was lower, as it was seldom more than half full. (Of the 30,764 patients received there in three years 24,900 were cared for without charge.) The best hospitals were the English, particularly those in Edinburgh and Manchester, because of their isolated situation and well ventilated buildings. The mortality there amounted to only 4 per cent. Of the surgical patients, concerning whom statistics are unfortunately very meager, in the Charité in Berlin, between 10 and 15 per cent. died. The following figures show the *extraordinarily small number of operations.* In the year 1801, in the Berlin Charité, among 523 surgical patients there were 30 operations, and two years later among 793, only 23 operations. The facts were similar in Friedrich's Hospital in Copenhagen, where in the year 1783 of 593 surgical patients 34 were operated upon, and two years later of 639 only 30 were operated upon. Among the 34 operations the majority were trephining, 8, a fact very characteristic of that time. An overwhelmingly larger part of the hospitals of the last century were thoroughly bad. Built in unhealthful places, most of them had only small, low rooms, in which the patients, usually medical and surgical cases together, were as if buried. Dirt and stench abounded. The French especially lacked a sense of cleanliness, quite aside from their revolting custom of putting several patients in one bed. This custom was at that time so general that it is always especially mentioned in the descriptions of hospitals if each patient had his own bed. This nation has not to this day been able to free itself from the expensive and at the same time injurious custom of providing beds with curtains. As the directorships were often given by preferment, and to people without merit, who drew their money but left their business to inefficient assistants, abuses not only crowded into all departments, but science was quite extinguished. The cure of most diseases was very difficult, the simplest of them often assumed a malignant character. This was largely due to the neglect of the closets, sewers and ventilation. When one considers that even today a project is urged to alter our hospitals so as to admit fresh, pure air, that the question of ventilation is still everywhere felt to be one of the most important, one might suppose that our forefathers knew nothing of these things. However, this is not true. Even then they recognized in the infected air a source of great mortality, as well as the increasing danger in narrow rooms and the crowding of patients, but the majority of the physicians did little or nothing toward putting these ideas into practice.

One of the first to appreciate the value of *ventilation* and throw doors and windows wide open to admit fresh air, was the English military surgeon J. Pringle. His plans of improvement were originally made for field hospitals. Suffice it to say that his principle was as follows: We may lay it down as a rule that the more fresh air we let into hospitals, the less danger there is of breeding this distemper (hospital fever). The more fresh air, the less danger! He put so few patients in each room that one who did not understand the matter would think there was room for two or three times the number. A part of the boards were taken out of the floors in the field hospitals, and the garrets opened on to the roof. He knew in how incredibly short a time the air in narrow rooms was defiled, but recognized too the difficulty of remedying the evil when neither nurses nor patients could be convinced of the necessity of opening doors and windows. Those rooms were always the most healthful where the air entered through broken windows and other holes in the wall. (Written in the year 1752!) Pringle's contemporary, Stephen Hales, celebrated for his penetrating and accurate experimental researches, invented a ventilator in the form of a great mechanical bellows, in order to improve the air in prisons and ships. Pringle recommended this for the hospitals, and in winter fires in the fireplaces, which acted as ventilators. Only in cases where facilities for ventilation were lacking, would he purify the air with

frankincense, juniper or vinegar. Hales' apparatus was somewhat expensive, so the Prussian surgeon-general Theden devised another kind of ventilator, after he had observed that lockjaw did not readily come into wards with fresh, pure air. He had long wooden pipes, eight inches wide, laid through the wall near the floor, so that they projected on the outside; beside, he had a funnel put in a corner of the room in an opening in the wall. Both could be closed by a cap. Three times a day the caps were opened so that the pure air entered through the pipes, and forced the bad air out through the funnel. He, as well as Baldinger, saw much use made of this method of ventilation in the Seven Years' War, and the smoking out of rooms entirely discontinued, because the air was not improved in that way. For a long time the belief was current, based upon Duhamel's researches (1748), that the exhalations and impurities of the air rise and collect at the ceiling of the room, and therefore it would suffice to make openings there. Overhead the air was said to be so poisoned that a bird would instantly die in it, and fresh meat began to putrefy in a short time. Therefore the rooms in hospitals were built as high as possible, in order to remove the impure air from the patients, and the great hospital in Lyons was provided with a dome. For demonstration of these assertions Maret, in 1782, when the Hôtel Dieu in Paris was about to be rebuilt, had various birds in cages hung in one of the domes; after fourteen days they were entirely well. While a piece of fresh meat fastened there was not in the least spoiled after five days, another placed in a ward at the level of the beds, became putrid in twenty-four hours. He concluded from this that, contrary to the views of Duhamel, only the air about the patients became infected, while that overhead was not at all so, and therefore it was a mistake to build the wards very high. In a long, four-cornered room whose opposite sides had each a large window, the stream of air would flow only through the middle, while the air on both sides was stagnant, but the stream ought to go horizontally through the lower part of the room. On this account, he suggested that hospitals be built in the form of a long ellipse, extending from north to south, and with a vaulted ceiling. At both the truncated ends should be two doors, which would open the entire breadth and height of the hall; further, the walls should be perfectly smooth, and the beds stand in two long rows, two feet from the wall. Every morning, and as often as necessary, both doors should be opened to admit fresh air, the bedridden patients being well covered, while the rest left the room. These suggestions, to Frenchmen, died like voices in the desert; they could not appreciate the value of fresh air. That is shown not only by the pest-holes in the Hôtel Dieu, but also by the official regulations in their hospital order from the year 1781. The only thing which this accomplished in that respect was that the windows were opened on clear days; on the other days, the wards were smoked with juniper at least three times a day.

One at a time, other propositions were submitted to the hospitals. The Englishmen Aikin and Percival suggested (1771) that a hospital be built in an open and healthful locality, and that the builder follow the advice of the physicians more than had heretofore been done, leaving as much vacant space as possible, instead of utilizing every inch. They did not favor a square structure, because this form made the necessary ventilation difficult. The rooms should be small, but high, and the patients placed according to Pringle's principle. They recommended that beside the usual facilities for ventilation, apertures be made in the walls opposite the windows and fireplaces be put in all the rooms. The bandages for suppurating surfaces must be made just as they were needed for use, and the beds frequently made up with fresh linen. In large cities they would have several small hospitals rather than a single large one. A. G. Richter also agreed with this opinion, and when the building of the Vienna Hospital was projected he asserted that instead of combining the existing hospitals in one large one, they should divide them into still more small ones. The professor in Göttingen considered it advisable to provide the beds with castors and move all the patients daily from one room to another, cleaning the first, airing it, and then moving them back into it. He also demanded a separate room for the dying and for patients with bad suppurations, etc. In spite of all the good advice which the two Englishmen gave, they went to the other extreme when they refused admission to the hospital not only to all patients whose cure was not likely to be accomplished in a short time, but also to patients with contagious diseases and such as would contaminate the air of the hospital, and finally to all patients with lung diseases, for whom pure air would be especially necessary. The burning of one wing of the Hôtel Dieu gave the Frenchman A. Petit occasion to come forward with plans for improvement. He would have (1774) all the large hospitals outside of the city, where air and water were purer and where there was more space and less smoke. For accidents a house within the city could be maintained, in which the patients could stay until their removal to the hospital. For the sake of better drainage the structure should be located on high ground, and it should be protected as much as possible from the north wind; the spot should be dry, but in the neighborhood of flowing water. Instead of a square building, he recommended the form of a star, in which the wings with the wards radiate in points and unite in the center in a funnel-shaped dome. Here was to be the residence of the physicians, apothecaries, cooks, clergy, etc. This form facilitated the service very much, because no part of the hospital was far from the central point; the funnel-shaped dome served all the rooms as a ventilator, as they were all connected with it by pipes. He would have the beds stand in single alcoves provided with curtains, and in each alcove a window through which the excreta could be gotten rid of by means of pipes leading outward, without its being carried through the room. (There was invented at that time in France a so-called elastic bed, similar to our present air cushions; it was a mattress made of oiled linen sewed together, waxed over, and then filled with air by means of a valve (1779). Designs were also proposed by the Germans. Fauken made a plan for a general hospital (1784). He estimated 1,600 hospital patients to 200,000 inhabitants, and a daily expense of 24 kreuzer for each. The building must have only one story, but rooms enough to be used alternately and cleaned at least every three weeks. For each bed he allowed a space of five feet, and suggested that they be painted green with oil paint, to absorb the noxious exhalations. Lattices outside of the windows, which were provided with metal ventilators, should soften the rays of the sun without obstructing the passage

of air, and at least twice a year the rooms should be whitewashed. Extreme views were not lacking; as C. L. Hoffmann (1788) thought it necessary that each patient in the hospital should have a separate room.

We will not forget that our forefathers, in their efforts to improve the hospitals, did not entirely follow the empiric, but sought to solve certain questions by experiment. Among such were their *researches in putrefactions*. Lord Bacon had considered it extremely useful to search for a means whereby putrefaction could be prevented or arrested, and he believed such work to be of the utmost importance in medicine and surgery. Pringle made such experiments in antiseptics in 1750 and 1751, and published the results of forty-eight of them in the Philosophical Transactions. Contrary to the accepted theory, he believed that putrid matter was not alkaline, and that alkaline salts did not induce, but arrested putrefaction, and he made known various antiseptics. Likewise he showed that most animal putrefactions would cause fermentation in farinaceous matter, but that saliva, when well mixed with food in sufficient quantity, prevented fermentation in the first stages. Upon this were based experiments in the putrefaction of blood, and so on. A Scotch surgeon, W. Alexander, took up the same question (1771), and experimented with meat and with blood of men and cattle. No degree of heat would alone induce putrefaction, moisture was essential to the process; and also the vapors from dead men and cattle would cause contagious diseases only in hot regions not sufficiently swept by the wind. But the perspiration of a healthy man starts putrefaction, since a piece of meat rolled in drops of sweat putrefies very quickly. He denied that stagnant water breeds putrid fevers and diarrhea, although the vapors from it are dangerous. Similar researches were made by Macbridge, Collin and Buchholz; Haller also experimented on animals concerning the action of putrefying matter.

In closing, a few words concerning the lying-in hospitals; as in Germany, obstetrics and surgery were usually taught by the same professor. France first introduced practical instruction for students and obstetricians, and to that end erected the first lying-in hospital, in Strassburg in 1728. It served as a model for all newly founded institutions, and attracted a crowd of foreigners. The largest was in the Hôtel Dieu in Paris, but at the beginning of the century students were not admitted there. The maternity cases were as closely crowded as all the other patients; indeed, four women in labor occupied one bed. The room was saturated with moisture and dampened the linen hung at the windows (1786). Lapeyronie founded two chairs in obstetrics, one for surgeons, the other for obstetricians (1743). Dublin had had a lying-in hospital since 1745, London since 1749; in the latter 2 per cent. died in 1771. In Germany, Berlin made a beginning, and opened the first obstetric school in the Charité under John Frederick Meckel. The chief surgeon treated the pregnant women, attended them at delivery, and instructed the pensionary surgeons and obstetricians in the maternity ward. For difficult cases and internal treatment, he was obliged to consult the physician of the Charité. Of greater value was the institution under Roederer, founded in Göttingen in 1751, modeled after the one in Strassburg. Roederer, who was called as obstetrician upon Haller's recommendation, wrote the first complete, systematic manual of obstetrics in Germany, which received much applause. Van Swieten first introduced public instruction in obstetrics in Austria. Dr. Crantz was sent to Paris for training, and then installed as first teacher of obstetrics in the University of Vienna, in 1752. Later, Steidele became professor of theoretic obstetrics in the Spanish Hospital. Joseph II. had a large maternity hospital connected with the newly founded General Hospital in Vienna. Here again, the humane sentiments which characterized the Austrian imperial house, were not renounced. The strictest privacy was maintained in the maternity hospital; no one was asked her name, much less the name of the father. Each patient, because of the possibility of her death, must write her name on a paper, seal it and mark it with the number of the bed and of the room, and keep it near her. At her discharge she took the paper with her unopened. Institutions for teaching obstetrics were founded in various German cities (Cassel, Marburg, Jena, Halle). Copenhagen had a large maternity hospital under Saxtorph, in which there were about 650 births in the year 1784.

(To be continued.)

SOCIETY PROCEEDINGS.

Chicago Ophthalmological and Otological Society.

Regular Meeting, held at the Victoria Hotel, March 9, 1897.

Dr. MONTGOMERY in the Chair.

There were eighteen members and visitors in attendance. The minutes of the last meeting were read and approved. The Secretary read the application of Dr. K. K. Wheelock of Fort Wayne, Ind., and it was referred to the Committee on Membership.

Dr. HALE showed a case of congenital cataract in a young man whose right eye had been needled four times and efforts made to extract the lens substance through a large cut in the cornea. There was still left considerable lens matter directly behind the pupil, which interfered greatly with vision. The cataract in the left eye had not been touched and was of a triangular form. Dr. Hale wanted the opinion of the Society as to the best method of procedure with the right eye.

Dr. GAMBLE showed a young lady with stellate congenital cataract in each eye. These had not been operated upon.

Dr. MONTGOMERY showed a case of gummata of the ciliary bodies. The patient was a young man who had had syphilis about a year ago, which was treated. In October, 1896, pain began in the right eye. This increased in severity, running into the temples and was accompanied by great injection. In November he was admitted to the Eye and Ear Infirmary with a severe iritis and great bulging at the sclero-corneal junction of the temporal side in the right eye. Apparently the iris had been drawn back into this bulging so that the pupillary edge was almost out of sight. The patient was put on calomel, 1-10 of a grain every two hours, but the symptoms increased in spite of this. Then the bulging and iritis began in the left eye. The treatment was changed to iodid of potash and increased to 45 grains three times a day, which was the saturation point. The symptoms rapidly disappeared and in two weeks the patient was without pain. The right eye, however, had a blocked pupil, and one week ago the doctor had done an iridectomy on this eye.

Dr. TILLEY showed a case of congenital paralysis of the third nerve with the exception of the fibers which supply the iris and ciliary muscle. This case was shown some ten years ago to the Chicago Medical Society, and since that time the only additional factor was a well determined history of syphilis in the parents. Both eyes turned strongly downward and outward, patient being obliged to throw back and turn his head to the side in order to see with either eye. There is some myopia in both eyes and the vision of the two is about the same. The only movement is a slight downward and outward one. Dr. Tilley thought there was probably a congenital absence either of the nerve or of the muscles. He was afraid to operate on the ptosis for fear that the patient could not close the eye sufficiently to cover the cornea.

Dr. HOTZ reported two cases of lamellar cataract:

Case 1, with almost normal acuity of vision and good accom-

modation. The patient was a young man, 23 years old, who consulted the doctor April, 1896, because his eyes ached a good deal in continued near work. He was wearing concave sphero-cylinders prescribed three years previously. With these glasses the vision of the right eye was 20–100, of the left 20–40. Each eye showed a hazy condition of the lens, which, after the pupils were well dilated, presented the characteristic picture of lamellar cataract. In both eyes the opaque portion showed a circular outline from which, however, numerous very short but distinct dark lines were projected in such regular intervals that the whole looked very much like a fine cog-wheel of a watch. The diameter of the opaque portion was the same in both eyes, but the right was a little duller than the left. In the right eye the best vision obtainable was 20–70 with minus sphero-cylinders, while in the left eye 20–20 was obtained in the same way. With these glasses the patient could read Sn. 0.5, though he preferred the minus cylinders without the spheres.

Case 2, with an unusual occurrence after the needle operation. On April of last year Dr. Hotz operated on the eyes of a 4 year-old boy for lamellar cataract, the operation consisting in a small incision into the anterior capsule of the lens. No reaction followed; pupils kept well dilated by atropin and the cortex became gradually opaque. A week later in the right eye the entire central portion of the lens (that which had originally been enclosed in the opaque lamellæ) was found in the anterior chamber. This same thing happened a week later in the left eye. The lens nuclei looked like very small lenses, being circular in outline, and were absorbed in such a manner as to become gradually smaller, still preserving their shape and not breaking up. In June a needle operation was done on the capsule and left the eyes in very good condition, the fundus details being clear with a plus 8.

Dr. HOLMES had had a similar experience of lens nucleus falling into the anterior chamber, but it irritated so much that he had to do an iridectomy.

Dr. GRADLE had had a case in which the nucleus protruded through the wound in the capsule, but did not escape into the anterior chamber; it slowly absorbed in this position.

Dr. COLEMAN had recently had a case of a child, 6 months old, with marked congenital cataracts in both eyes. Six months ago he had told the father (who was a physician) that he thought it would be better to operate later, but in the meantime the cataracts had disappeared. Dr. Coleman would hesitate to remove any congenital cataract except by discission.

Dr. COLBURN asked if anyone had ever seen the punch which he had seen described for the purpose of making a hole in an opaque capsule.

Dr. PINCKARD had seen the punch, but had never seen it used. He doubted the value of it in such cases.

Dr. HOTZ said that in Dr. Hale's case probably the 2-hook operation would be as good as any.

Dr. COLBURN had used a double needle.

Dr. MCARTHUR stated that the 2-hook operation was still used very extensively in the London clinics.

Dr. HOTZ thought that it might be wise in Dr. Tilley's case to try to raise the eyes by advancement of the superior recti. He thought that any interference with the lateral muscles might produce a troublesome diplopia.

Dr. COLBURN had had a case similar to Dr. Tilley's in which after very extensive advancements and tenotomies he had finally succeeded in getting binocular vision. He had found no trouble in securing sufficient fibrous tissue to make the advancements, although there was no apparent muscle.

Dr. GRADLE stated that he had not succeeded in getting diplopia in cases of congenital paralysis and that the patients were never troubled with this symptom.

Dr. PINCKARD stated that he had had a similar experience, it being impossible to provoke double vision in most of these cases.

C. P. PINCKARD, M.D., Secretary.

SOCIETY NEWS.

Association of American Medical Colleges.

J. M. BODINE, M.D., President, Louisville, Ky.

BAYARD HOLMES, M.D., Secretary, Chicago, Ill.

The annual meeting of the Association of American Medical Colleges will be held at the Hotel Walton, Philadelphia, Monday, May 31, 1897, at 10 A.M. On account of the coincident meeting of the American Academy of Medicine and the Association of Examining Boards the Association will probably adjourn to meet at the College of Physicians at a later hour and probably on the following day.

THE ORDER OF BUSINESS.

1. Reading the minutes of the previous meeting.
2. Adjournment for ten minutes for the presentation of credentials by delegates who are not deans of the colleges they represent and for the payment of annual dues.
3. Roll call of colleges holding membership.
4. President's Address. By J. M. Bodine, of Louisville, Ky.
5. Report of
   1. Committee on course of study; *a*, Medicine, by Wm. Osler of Baltimore; *b*, Obstetrics, by —— Williams of Baltimore; *c*, Surgery, by Bayard Holmes of Chicago.
   2. Committee on codifying the Constitution and By-laws, by the Secretary. The report is appended herewith.
6. Secretary-treasurer's report.
7. Report of Judicial Council.
8. Presentation of papers or essays.
9. New business.
10. Adjournment.

The following report from the Committee on Codifying the Constitution has been made to include all the recommendations which have been received from colleges in relation to constitutional amendments. No changes have been made in the spirit or requirements of the Constitution or By-laws, but their provisions have been made more exact and definite. On account of the establishment of examinations for entrance upon professional study in States other than the State of New York, the Committee recommends that the section relative to this matter be made general so as to apply to all States now giving medical students certificates, and to any State which may issue such certificates hereafter. The other changes in the Constitution were suggested at the Atlanta meeting and are for the most part of a similar character. The Committee recommends that this Constitution be adopted as a whole in the place of the existing Constitution.

BAYARD HOLMES, Secretary.

REPORT OF COMMITTEE ON CODIFYING THE CONSTITUTION.

ARTICLE I.

This organization shall be known as the ASSOCIATION OF AMERICAN MEDICAL COLLEGES.

ARTICLE II.

SECTION 1. Any college conforming to the requirements of the Association, as expressed in this Constitution and in the By-laws of the Association, is eligible to *membership*.

SEC. 2. Any college desiring membership in this Association shall make *application* to the secretary and pay the annual dues of five dollars. This application shall be accompanied by evidence that the college applying is conforming to the requirements of this Association. The application and all evidence and information in relation to the college shall then be put in the hands of the Judicial Council, to be reported to the Association favorably or unfavorably at the next annual meeting, at which time the college shall be elected to membership if it receives the favorable recommendation of the Judicial Council and the favorable ballot of two-thirds the colleges represented in the meeting. The neglect of the Judicial Council to report on the application of a college shall not be a bar to election.

SEC. 3. Each college is entitled to one *representative* at all meetings of the Association and to one vote on all questions. The dean of the college will be its accredited representative in the absence of any other delegate.

SEC. 4. The dues are five dollars a year, payable in advance.

ARTICLE III.

SEC. 1. Each college holding membership in this Association shall require of each student *before admission* to its course of study an examination the minimum of which shall be as follows:

1. In *English*, a composition on some subject of general interest. This composition must be written by the student at the time of the examination and should contain at least two hundred words. It should be criticised in relation to thought, construction, punctuation, spelling and handwriting.
2. In *Arithmetic* such questions as will show a thorough knowledge of common and decimal fractions, compound numbers and ratio and proportion.
3. In *Algebra* such questions as will bring out the student's knowledge of the fundamental operations, factoring and simple quadratic equations.
4. In *Physics* such questions as will discover the student's

understanding of the elements of mechanics, hydrostatics, hydraulics, optics and acoustics.

5. In *Latin* an examination upon such elementary work as the student may offer showing a familiarity usually attained by one year of study; for example, the reading of the first fifteen chapters of Cæsar's Commentaries and the translation into Latin of easy English sentences involving the same vocabulary.

SEC. 2. In place of this examination or any part of it colleges, members of this Association, are at liberty to recognize the official *certificates of reputable* literary and scientific colleges, academies, high schools and normal schools covering the work of the foregoing entrance examination, and also the medical student's certificate issued by any State examining board.

SEC. 3. Colleges, members of this Association, may allow students *who fail in one or more branches* in this entrance examination the privilege of entering the first year course, but such students shall not be allowed to begin the second course until the entrance requirements are satisfied.

SEC. 4. Colleges, members of this Association, are free to honor official *credentials issued by medical colleges of equal requirements*, except in the branches of study embraced in the last year of their own curriculum.

SEC. 5. Candidates for the degree of Doctor of Medicine in the year 1899 and thereafter shall have attended at least *four courses* of medical instruction, each course of at least six months duration. No two courses shall be in the same calendar year.

SEC. 6. Colleges, members of this Association, are free to give to students who have met the entrance requirements of the Association additional *credit for time* on the four year course as follows: *a.* To students having the A.B., B.S. or equivalent *degrees* from reputable literary colleges, one year of time. *b.* To graduates and students of colleges of *homeopathic* or *eclectic* medicine, as many years as they attended those colleges. *c.* To graduates and students of reputable colleges of *dentistry*, *pharmacy* and *veterinary* medicine, as many years less one as they attended those institutions.

[SEC. 7. Colleges, members of this Association, may confer the degree of Doctor of Medicine during the year *1898* upon students who have attended *three courses* of six months duration each. Each course shall have been in a separate calendar year.]

ARTICLE IV.

SEC. 1. In addition to the representations of colleges in attendance at regular meetings, who are termed *active members*, there shall also be associate members and honorary members. *Associate members* shall consist of former representatives and representatives of post-graduate medical schools and members of State boards of medical examiners. Distinguished teachers in medicine and surgery may be elected to *honorary membership*.

SEC. 2. Only duly delegated and accredited active members in actual attendance whose annual dues are paid shall have *voting power*, but associate and honorary members may participate in all other proceedings and duties and may be elected to any office.

ARTICLE V.

SEC. 1. The *officers* of this Association shall be a President, Senior and Junior Vice-presidents, Secretary and Treasurer, and a Judicial Council of seven members; all of whom shall be elected annually by ballot and serve until the election of their successors.

SEC. 2. The *President*, or one of the Vice-presidents in the absence of the President, shall preside at all the meetings and perform such duties as parliamentary usage in deliberative assemblies and the By-laws of this Association may require. Of the seven members constituting the *Judicial Council*, the three whose names appear first on the list of those first elected shall serve three years. Of the remaining four, the two first named shall serve two years, and the two last named shall serve for one year. Vacancies by expiration of term to be filled at the annual election of officers. Vacancies by death or resignation may, if business of importance arise, be filled by the surviving members of the Association.

SEC. 3. The *Secretary* and *Treasurer* shall record the proceedings of the meetings, conduct the correspondence, receive dues and assessments from members, disburse the funds of the Association as provided by resolution, issue cirtificates of membership, and perform such other duties as the By-laws may require.

SEC. 4. The *Judicial Council* shall investigate and determine all questions of violation of the rules and regulations of this Association, and all maters of dispute between the members of this Association. All charges or complaints shall be preferred formally in writing, and referred to the Council. The Council shall make written report at the next ensuing session of the Association upon all matters received for adjudication.

ARTICLE VI.

SEC. 1. The stated *meetings* of this Association shall occur annually on the Monday preceding the Tuesday on which the American Medical Association convenes.

SEC. 2. A majority of the active members whose dues are paid shall constitute a quorum.

ARTICLE VII.

This Constitution shall not be altered or amended, except by written notice to all members at least thirty days previous to a stated meeting, and by a vote of two-thirds of all the acting members present at such meeting.

(It is thought best to introduce for comparison the Constitution now in force.)

CONSTITUTION.

ARTICLE 1.

This Association shall be known as the ASSOCIATION OF AMERICAN MEDICAL COLLEGES.

ARTICE II.

SEC. 1. Colleges adopting and observing the rules of this Association, as herein provided, shall be eligible to membership. Each college shall be entitled to one representative at all the meetings of the Association.

SEC. 2. Colleges desiring membership in this Association shall make written application to the Secretary, officially signed, and pay to the Treasurer of this Association the sum of five dollars ($5.00) annually in advance.

ARTICLE III.

SEC. 1. Colleges, members of this Association, shall require of all matriculates an examination as follows: 1. An English composition in the handwriting of the applicant of not less than two hundred words, said composition to include construction, punctuation and spelling. 2. Arithmetic—fundamental rules, common and decimal fractions, and ratio and proportion. 3. Algebra—through quadratics. 4. Physics—elementary—(Gage) 5. Latin—an amount equal to one year's study as indicated in Harkness' Latin Reader.

SEC. 2. Graduates or matriculates of reputable colleges, or high schools of the first grade, or Normal schools established by State authority, or those who may have successfully passed the entrance examination provided by the statutes of the State of New York, may be exempted from the requirements enumerated in Section 1.

SEC. 3. Students conditioned in one or more of the branches enumerated as requirements for matriculation, shall have time until the beginning of the second year to make up such deficiencies; provided, however, that students who fail in any of the required branches in this second examination shall not be admitted to second course.

SEC. 4. College members of this Association are free to honor official credentials issued by colleges of equal requirements except in the case of branches embraced in the last year of their own curriculum.

SEC. 5. Candidates for the degree of Doctor of Medicine shall have attended three courses of graded instruction of not less than six months each, in three separate years.

SEC. 6. Students who have matriculated in any regular college prior to July 1st, 1892, shall be exempted from these requirements.

SEC. 7. Candidates for the degree of M.D., in 1899, or thereafter, shall have pursued the study of medicine for a period of four years, and attended at least four courses of lectures of not less than six months duration each. It is provided, however, that the following classes of students may apply for advanced standing:

a. Graduates of recognized colleges and universities that have completed the prescribed course in chemistry and biology therein.

b. Graduates and matriculates of colleges of homeopathy.

c. Graduates and matriculates of colleges of eclectic medicine.

d. Graduates and matriculates of colleges of dentistry requiring two or more courses of lectures before conferring the degree of D.D.S. or D.M.D.

e. Graduates and matriculates of colleges of pharmacy.

f. Graduates and matriculates of colleges of veterinary medicine.

All students shall be required to comply with the provisions of the entrance examination and prove their fitness to advanced professional standing by an individual examination upon each branch below the class he or she may desire to enter.

ARTICLE IV.—*Membership.*

SEC. 1. Membership in this Association shall be divided into

active, associate and honorary. The active membership shall consist of persons duly appointed to represent the college for the fiscal year. Associate membership shall consist of former delegates, representatives of post-graduate medical colleges and of State boards of medical examiners. Honorary membership, of distinguished teachers in medicine and surgery.

SEC. 2. Voting power shall be confined to active members in actual attendance. Associate and honorary members may participate in all other proceedings upon invitation of the presiding officer.

ARTICLE V.

Officers.

SEC. 1. The officers of this Association shall be a President, Senior and Junior Vice-presidents, Secretary and Treasurer, and a Judicial Council of seven members, all of whom shall be elected annually by ballot, and serve until the election of their successors.

SEC. 2. The President, or one of the Vice-presidents in his absence, shall preside at all the meetings and perform such duties as parliamentary usage in deliberative assemblies and the By-laws of this Association may require. Of the seven members constituting the Judicial Council, the three whose names appear first on the list of those first elected shall serve three years. Of the remaining four, the two first named shall serve two years and the two last named shall serve for one year. Vacancies by expiration of term to be filled at the annual election of officers. Vacancies by death or resignation may, if business of importance arise, be filled by the surviving members in the interval between the annual meetings of the Association.

SEC. 3. The Secretary and Treasurer shall record the proceedings of the meetings, conduct the correspondence, receive dues and assessments from members, disburse the funds of the Association as provided by resolution, issue certificates of membership, and perform such other duties as the By-laws may require.

SEC. 4. The Judicial Council shall investigate and determine all questions of violation of the rules and regulations of this Association, and all matters of dispute between the members of this Association. All charges or complaints shall be preferred formally in writing and referred to the Council. The Council shall make written report at the next ensuing session of the Association upon all matters received for adjudication.

ARTICLE VI.

SEC. 1. The stated meetings of this Association shall occur annually on the Monday preceding the Tuesday on which the American Medical Association convenes.

SEC. 2. A majority of the members shall constitute a quorum.

ARTICLE VII.

This Constitution shall not be altered or amended, except by written notice to all the members at least thirty days previous to a stated meeting, and by a vote of two-thirds of all the delegates present at such meeting.

BY-LAWS.

SEC. 1. The presiding officer shall, on calling meetings to order, call for the reading of the minutes of the previous session, which, when approved, shall be recorded in a book kept for that purpose, signed officially by the Secretary and approved by the President.

SEC. 2. After approval of the minutes, the Secretary shall announce the colleges represented at the meeting and an adjournment of ten minutes shall then follow to allow other representatives present to register and pay their dues.

SEC. 3. Order of business.

1. The reading of the minutes of the previous meeting.
2. Roll call of membership.
3. Reports of committees.
4. Secretary and Treasurer's report.
5. Report of Judicial Council.
6. Papers and essays.
7. New business.
8. Adjournment.

SEC. 4. These By-laws may be altered or amended at any time by unanimous consent of the members present, or by written proposition to so alter or amend, being read in open session and receiving the approval of a three-fourths vote of all the members present at an adjourned session of any stated meeting; provided, however, not more than twenty-four hours shall have elapsed between the time of the proposition to amend and the final vote thereon.

RULES OF THE JUDICIAL COUNCIL.

I. All complaints, charges and other questions must be submitted in writing through the Secretary of the Association, or directly through the Chairman of the Council.

II. All complaints of violations of rules and regulations must be in the form of written charges and specifications, signed by the complainant.

III. All charges and specifications must be presented to the accused for answer. In all cases the written answer must be filed with the Chairman of the Council within ten days from the receipt of the copy of charges by the accused.

IV. All counter charges must be submitted to the accused for answer, and pleadings in the same manner as the original charges, and the Council will take no notice of any evidence not submitted through its Chairman in regular form and order.

V. As the strictest formality is necessary to insure justice equally, all decisions of the Council must be rendered in writing, signed by each member taking part in the determination of any question.

VI. In the intervals between the annual meetings, the Council may act upon all matters submitted in due form by its Chairman, each member communicating his decision to the Chairman, who shall immediately, or within ten days from the date of any decision, file a certified copy with the Secretary, and notify all the parties interested.

VII. It will be the duty of the Chairman of the Council to file and preserve all original complaints, charges and other matter referred to the Council, and to deliver them to the Secretary on the first day of each annual meeting next ensuing the date of final decision.

THE FOLLOWING NAMED COLLEGES PAID THEIR DUES FOR THE YEAR ENDING MAY 30, 1897.

College of Physicians and Surgeons, Chicago.
Detroit College of Medicine.
Medical Department, Howard University, Washington.
Western Pennsylvania Medical College, Pittsburg.
Medical Department, Columbian University, Washington.
Ohio Medical University, Columbus.
Western Reserve Medical College, Cleveland.
Rush Medical College, Chicago.
Medical Department, University of Maryland, Baltimore.
Hospital College of Medicine, Louisville.
Barnes Medical College, St. Louis.
Baltimore Medical College.
Kentucky School of Medicine, Louisuille,
Medical Department University of Louisville.
College of Physicians and Surgeons, Baltimore.
Louisville Medical College.
College of Physicians and Surgeons, Cleveland.
Cincinnati College of Medicine and Surgery.
College of Physicians and Surgeons, Boston.
Baltimore University, School of Medicine.
Albany Medical College.
Medical College of Indiana, Indianapolis.
Medical Department, Arkansas University, Little Rock.
Starling Medical College, Columbus.
Medical College of Ohio, Cincinnati.
Laura Memorial Medical College, Cincinnati.
Medical Department, National University, Washington.
Toledo Medical College.
Miami Medical College, Cincinnati.
Kansas City Medical College.
Wisconsin College of Physicians and Surgeons, Milwaukee.
University of California, Medical Department.
The Kansas Medical College, Topeka.
Michigan College of Medicine and Surgery, Detroit.
College of Medicine, University of the Northwest, Sioux City.
Harvard University, Medical School, Boston.
College of Medicine, Syracuse University.
Medical Department, New Orleans University.
College of Medicine, University of Southern California, Los Angeles.
University of Michigan, Medical Department, Ann Arbor.
Gross Medical College, Denver.
Medical Department, Yale University, New Haven.
Medical Department, Johns Hopkins University, Baltimore.
College of Physicians and Surgeons, St. Louis.
Medical Department, University of Denver.
Medical Department, University of Buffalo.
Medical Department, University of Minnesota, Minneapolis.
Omaha Medical College.
University of Oregon, Medical Department, Portland.
University of Georgetown, Medical Department.
Woman's Medical College, Philadelphia.
Jefferson Medical College, Philadelphia.
College of Physicians and Surgeons, Minneapolis.
Creighton Medical College, Omaha.
Total, 54.

American Academy of Medicine.

The twenty-second annual meeting of the American Academy of Medicine will be held in Parlor "C" of the Continental Hotel, Philadelphia, on Saturday and Monday, May 29 and 31, 1897.

The meeting will be called to order at 2 P.M., May 29, when the Academy will hold an executive session, open to its membership only. The order of business will be as follows: Reading of the minutes of the last annual meeting; report of the Council; election of Fellows; appointment of a Committee on Nominations; treasurer's report; action on the proposed amendments to the constitution; new business. At the conclusion of the executive session, approximately at 4 o'clock, an open session will be held for the reading of "Professional Program." Only those papers whose titles have been furnished are included in this list; several others have been partially promised and it is hoped that these will be added to the completed program to be presented at the meeting.

THE ASSOCIATED DUTIES OF THE PHYSICIAN.

1. "The True Principles on which the Medical Profession Should be Associated and the Character of the Resulting Organization." Leartus Connor of Detroit.
2. "Physicians' Mutual Aid Societies." John B. Roberts of Philadelphia.
3. "Quid pro Quo—Present and Future." C. C. Bombaugh of Baltimore, Md.
4. "The Relation of the Physician to the Public Press." Solomon Solis Cohen of Philadelphia.
5. "Some Relations of Author, Publisher, Editor and Profession." George M. Gould of Philadelphia.
6. "Medical Reviews." Walter L. Pyle of Philadelphia.
7. "The Influence of a Liberal Education with Reference to Medical Ethics." Elmer Lee of Chicago.
8. "Hospital Abuse." W. L. Estes, South Bethlehem, Pa.
9. "Result of a Year's Endeavor to Lessen the Dispensary Abuse in the Rhode Island Hospital, Providence, R. I." F. T. Rogers of Providence.
10. "Are Physicians up to Date? A Sociologic Inquiry." Charles McIntire of Easton, Pa.

The Academy will take a recess at about 6:00 and reconvene at 8:00 in open session.

11. The President's Address. J. C. Wilson of Philadelphia.

At the conclusion of the address, if it be the pleasure of the Academy, the papers not reached in the afternoon will be read.

Second day: executive session, 10 A.M.; reports of committees; election of Fellows; election of officers; unfinished business; new business. Open session, 11 A.M. Reading of papers resumed.

12. "The Relation of Alcohol to Preventive Medicine." J. W. Grosvenor of Buffalo.
13. "The Truth About Calomel." Everett Flood of Baldwinsville, Mass.
14. "The Great Physician of the Revolution; A Doctor sans peur et sans reproche." A. L. Gihon, Medical Director, U. S. N., retired.
15. "Where Shall We Put Up the Bars? A Plea for Preliminary Education." A. L. Benedict of Buffalo.

DISCUSSION: "THE RELATION OF THE COLLEGE TO THE MEDICAL SCHOOL."

16. "The Side of the Medical School." Bayard Holmes, B.Sc., M.D., College of Physicians and Surgeons, Chicago, Secretary of the Association of American Medical Colleges.
17. "The Side of the College." Ethelbert D. Warfield, LL.D., President, Lafayette College, Easton, Pa.
18. "The Side of the University." William Pepper, M.D., LL.D., Ex-Provost, University of Pennsylvania, Philadelphia.

The Committee on Program will ask that thirty minutes be given to each of the speakers opening this discussion, and, at their conclusion, that visitors be invited to take part in the discussion, each speaker being limited to five minutes, according to the rule. The discussion will be assigned to the first place after the recess for lunch.

At the conclusion of this discussion the reading of any unread papers will be in order, after which there will be a short executive session.

Reports of committees; unfinished business; induction of President-elect; appointments for 1897–98; new business.

The reunion session will be held at the Continental Hotel on Monday, May 31, at 8 P.M. By a standing rule of the Academy, the price for the supper is limited to $2 per plate. Fellows are at entire liberty to invite their friends to enjoy with them the Academy's annual social function. The meetings during the past years have been pleasant and the post-prandial program of interest. It greatly aids the committee in every way to know in advance the probable attendance upon the reunion session. Those who may be thinking about attending are requested to send their names either to the chairman of the Committee of Arrangements, the President or the Secretary. The price for the ticket can be paid to either of them at any time. The time limit for papers read before the Academy is twenty minutes; discussion to five minutes for each speaker, excepting in closing, when ten minutes are given.

The Trunk Line Association, with their usual courtesy to the Academy, extend the time of the concession granted to the AMERICAN MEDICAL ASSOCIATION to include the earlier date of the Academy. Fellows desiring to avail themselves of this will please: 1. Pay full fare to Philadelphia and secure a certificate of that fact from the agent selling the ticket. 2. This certificate must be endorsed at Philadelphia by Dr. W. B. Atkinson, Secretary of the AMERICAN MEDICAL ASSOCIATION, and countersigned by an agent of the Trunk Line Association. 3. When so endorsed and countersigned the presentation of the certificate will secure you a return ticket by the *same route* at one-third fare. The Council will meet on Saturday morning, when the application for fellowship will be acted upon. Kindly forward any application you may have to the Secretary as soon as convenient.

SELECTIONS.

A Study in Air Embolism.—In the *Boston Medical and Surgical Journal*, February 26, Dr. Jay Perkins, a medical examiner for Rhode Island, has outlined a painstaking investigation, both clinical and experimental, on the above subject. The immediate cause of death in consequence of air in the blood-vessels is given by different authors as one of the three following ways: 1, paralysis of the heart from over-distention of the right ventricle; 2, air in vessels of the brain, causing ischemia; 3, obstruction of the pulmonary circulation by bubbles of air in the capillaries of the lung, causing death from asphyxia.

The symptoms of air in the veins depend upon the amount introduced, the rapidity and force with which it is introduced, and the relative strength of the heart into which it is introduced. A small amount can be taken care of by the blood without causing symptoms; a larger amount, but still not enough to kill, will cause immediate temporary irregularity of respiration and of the heart's action, a sensation of impending death, a cry, a convulsion, or simply a collapse. On listening over the heart a churning sound is heard. If the air enters more slowly, we may get air-embolism of the pulmonary vessels and death from asphyxia, or later from pneumonia. The plugging of the pulmonary vessels causes deeper inspirations, through the need of the system for more oxygen, and thus more air is drawn into the vessels. Air can, however, pass through the capillaries if only there is sufficient force behind it, as Professor Senn has shown by injecting air into the arteries of dogs. He found that by injecting air into the arteries he got "convulsions, coma, tetanic rigidity of the limbs and extensor muscles of the back. If the animal does not succumb to the primary effects of the air upon the brain and medulla oblongata, a series of symptoms succeed which announce the arrival of the blood in the veins and right side of the heart." Death takes place from asphyxia from the plugging of the pulmonary capillaries with frothy blood, the right side of the heart being less strong than the left. If a large amount of air enters the blood vessels at once, we have only momentary symptoms, the cry, deep respirations and death, the action being nearly or quite on the heart. Here the symptoms do not last long enough to be due to non-aeration of the blood and there are no brain symptoms unless, as occasionally occurs, we have a convulsion. If the chest is opened immediately after death, the right auricle will be found still contracting, the left auricle and both ventricles having ceased action. If, however, a puncture be made in the right side of the heart and the air let out, the heart will begin to contract again. In dogs dying from the spontaneous entry of air into the jugular vein death

is more prolonged and the heart continues to beat for some time after apparent death has taken place.

In a dog weighing about seventy-five pounds, ether was given while the vein was being secured and then removed. A large canula was introduced into the external jugular. Blood clotted in the canula, and but little air entered. An unknown amount of air was then blown into the canula, and the dog expired instantly. After a few moments the chest was opened; the auricles were still pulsating, the left slowly, the right seventy times per minute. Heart distended, right side more than the left. Air was present in both sides of the heart, more marked in the right side.

In a second dog a small amount of air was injected into the external jugular, producing labored breathing, a tumultuous action of the heart, and giving a slight churning or gurgling sound on listening over the heart. A larger amount of air was then forced into the vein, causing the arrest of any perceptible action of the heart after a brief space of time. Frothy blood came from the distal end of the jugular, and air was found in the femoral vein and cellular tissue of the thigh. The right side of the heart was distended, and contained air and considerable frothy blood. Some air and frothy blood were found in the left side of the heart.

Vaso-motor Poisoning in Accidents from Chloroform.—Dr. H. A. Hare, in the *Medical News*, March 6, appears in the editorial columns with a signed article, in support of the view that the dominant action of chloroform is to depress the vaso-motor center. The experiments of all, or nearly all, investigators have shown that this drug, as ordinarily given, produces a fall of pressure, although in the first moments of inhalation there may be a rise which is due to excitement. "Bowditch, Minot, Couts, Wood, the Hyderabad commissioners, my own studies, with and without Thornton, and all teachings I have ever seen, prove this fact. This is the experimental evidence; the practical evidence lies in the fact that accidents from chloroform anesthesia result more frequently when the drug is given to a patient who is in the erect or semi-erect position than when lying prone. Inversion of the body of the patient under these circumstances, even in apparently hopeless cases, will often serve to resuscitate him by causing a portion of the blood to enter the feebly beating heart from the veins, and so reach the vital centers in the medulla, as well as filling the coronary arteries, an equally important matter. Again, accidents from the use of chloroform are exceedingly rare in parturient women, because the compression of the abdominal vessels cuts off a large vascular network and the pains stimulate the vaso-motor center. We know that if atropin, a valuable vaso-motor stimulant, is given before the administration of chloroform, the latter drug may be given with greater safety. Finally, I wish to mention an important clinical observation. On one occasion I gave chloroform to a feeble woman whose condition demanded an abdominal section. The face suddenly became pallid, the radial pulse disappeared and the heart sounds could not be heard. The operator immediately grasped the abdominal aorta to determine if the heart had ceased to beat, and as he compressed it, the pulse in the radial artery at once returned. The compression of the artery prevented what little blood the heart had to pump from flowing onward and stagnating, and, by restoring to a certain degree the normal pressure, produced a tonic cardiac influence; for the normal heart must have arterial resistance in order to perform its proper functions.

"My conclusions, therefore, are that chloroform generally kills by its vaso-motor poisoning effect, which deprives the heart and respiratory center of blood, and simultaneously the drug itself aids in the embarrassment of these parts. From these conclusions we may draw the following practical deductions: 1. In all cases when chloroform is to be given to a feeble patient, the extremities should be tightly bandaged. 2. Atropin should be given as a vaso motor stimulant. 3. A large compress should be tightly bound over the abdomen if this is at all relaxed, or if an accident occurs. 4. The patient should be inverted, if syncope occurs. 5. Artificial respiration, performed by compressing the floating ribs and precordium, should be employed to aid in the circulation of the blood, to pump the chloroform vapor out of the lungs, and to aid the respiratory center in its functions. 6. During the use of chloroform the respirations should be watched for two reasons, because the depth and rapidity of the breathing is a gauge of the amount of chloroform inhaled (for the amount on the inhaler is not the dose), and because as the blood pressure falls, the respiratory center becomes disturbed in its function and the irregular breathing shows that the chloroform is disturbing it. Further, irregular breathing means irregular dosing, for twenty deep inspirations a minute means more chloroform inhaled than twenty shallow ones. The respiration is the dose gauge."

Successful Operation for Perforated Gastric Ulcer.—Clarke (*Lancet*, March 20, p. 806) adds another to the growing list of cases of perforated gastric ulcer successfully operated on. A domestic servant, 19 years old, was seized with severe epigastric pain and sickness two hours after her mid-day dinner of beef, potatoes and rice pudding. She had had some uneasiness about the stomach for two or three days previously and two years before she had suffered from hematemesis. Since this time she had often felt pain after food, with occasional sickness. In the course of four hours following the onset of the acute manifestations the patient was moderately collapsed, and the symptoms, together with her aspect, her attitude and her pallor, made it evident that abdominal exploration was urgently called for. Accordingly, a five-inch incision was made in the median line, from the xiphoid cartilage to near the umbilicus. The left rectus muscle was not divided. The falciform ligament of the liver was in the way and somewhat delayed the due opening of the peritoneum, but on getting through this membrane, odorless gas and turbid fluid escaped, and bits of potato and rice were seen scattered about. There were no adhesions. On drawing down the stomach a perforated ulcer perhaps an inch in diameter was found on the anterior surface near the cardiac extremity, through which more rice and potato was escaping. The edges of the ulcer were indurated and the base around for some distance was thickened. Considerable traction downward was necessary to bring the ulcer within due reach. The fluid and bits of food were, as far as possible, at once removed, sponges were adjusted around, and the stomach was washed out with two syringefuls of fairly hot water. The edges were too deep to admit of being trimmed; so the opening was closed by two rows of fine silk sutures by Lembert's method and fixed well beyond the ulcer, both above and below. The abdominal opening was then covered temporarily with hot sponges and a second median incision was made a little above the pubes, so as to explore Douglas' pouch. A good sized sponge passed into this cavity was found on withdrawal to be saturated with the same turbid fluid as had already been noticed. The abdominal cavity was now freely irrigated with hot water at a temperature of 105 degrees, several pints being used, and the various recesses especially were dealt with by means of the glass tube passed between the coils, above and under the liver and in the different regions, until all of the fluid returned clear. The surplus was then sponged away. A large drainage tube was then introduced into Douglas' pouch and the lower wound was closed. A similar piece of tube was inserted through the upper opening and reaching to the site of the ulcer. The operation lasted an hour and a quarter and was well borne by the patient. Three hours later a hypodermic injection of morphin was given to relieve pain. Sickness occurred once in the night. Nutrient enemata were administered regularly. On the second day improvement was noticed. Thirst was relieved by hot water anemata each day and the drainage-tube was soon removed and replaced by plugs of iodoform gauze. On the sixth day a small discharge of pus took place from the epigastric wound, which otherwise was doing well. Rectal feeding was continued until the eighth day, when

the patient began to take liquids by the mouth. The wounds gradually closed and convalescence was uninterrupted. The patient was dismissed two months after the operation, having gained seven pounds in weight.

PRACTICAL NOTES.

Radiographic Test After Osteotomy.—At the New York Postgraduate Hospital Dr. Samuel Lloyd recently gave an interesting demonstration of the surgical utility of ray work. One case was that of a young girl whose thigh bones were crossed, thus preventing her from the use of her limbs. She was taken into the hospital nine weeks ago, when the surgeon performed the operation of osteotomy. Both thigh bones were broken and placed in position for a normal reunion. The bones were subjected to a ten-minute exposure of the ray, and by the use of the fluoroscope Dr. Lloyd was able to announce a perfect union of the bones, so that the girl would be able to walk. The successful application of the X rays to this part of the body was more difficult than to any other part a representative of Mr. Edison explained, but the healing bones could be seen as readily by placing the Crookes tube under the operating table and holding the fluoroscope above the thigh bones. Other experiments, equally successful, were made with fractured bones of the knee and elbow and with diseased bones of the hands.

Vaginal Atresia and Its Cause.—Meyer has published a very complete monograph on this subject, with no fewer than 216 cases carefully tabulated. He does not confirm Kussmaul's doctrine that ill-development of the lower part of the genital tract with atresia is due to fetal inflammation. It is in infancy and childhood that these inflammations occur, such as vulvitis and local lesions in general infectious disorders. The vagina closes, the tissues heal and look healthy after a time, and it is not till puberty that the damage becomes manifest. Then it is easy to understand how the disease might be wrongly considered congenital. Unilateral hematosalpinx, with inflammatory closure of the vagina, is very often observed, and Meyer holds that there is closure of the tube at the ostium from the same inflammation, due to some infective agent. As the agent can cause septic changes in the blood in the tube, the ultimate rupture of the hematosalpinx into the peritoneum or into some visceral cavity puts the patient to great peril. This explains the high mortality of atresia vaginæ with unilateral hematosalpinx.—*American Practitioner and News*, March 20.

Prodromal Eruptions in Measles.—Robet has collected a number of observations showing that measles may have a premonitory rash as is the case with variola and varicella. These eruptions vary in character, being scarlatiniform, morbilliform and erysipelatous. They may even resemble red miliaria, showing small vesicles filled with a clear fluid surrounded by a pink areola, and accompanied by itching. The erythemata generally appear about the second day of the period of invasion, and disappear before the measles eruption, and they do not seem to affect in any way the invasion period of the disease, and the temperature course in nowise differs from the cases in which there is no premonitory rash, nor does the subsequent condition of the patient show the least difference; moreover, there does not seem to be any serious constitutional effect similar to that following the erythematous eruptions met with in diphtheria, enteric and some other diseases. The author admits that the number of cases sufficiently recorded is as yet too small to warrant any statistics being drawn, but he thinks that these premonitory rashes are much more frequent in measles than is generally supposed.—*British Medical Journal.*

Identity of Seborrhea and Alopecia.—It is announced from the Pasteur Institute that M. Sabouraud has established the fact of the identity of the microbe in these two affections, which he has successfully isolated and with which he has produced the characteristic alopecia patches on sheep, guinea pigs and rabbits. Inoculations with the seborrheic microbe are not quite so convincing, and hence he only asserts in the case of seborrhea that the microbacillus is the constant microbian expression of the affection, without being able to demonstrate that it is the cause of the lesions. His article in the *Annales de l'Institut Pasteur*, February 25, is an able presentation of the clinical picture, elementary lesions and the microbe of the two affections reveal the connection between them, and proves the facts that acute alopecia is an acute local seborrhea, and alopecia decalvans a generalized chronic seborrhea. The same parasite produces two distinct diseases; why they differ is still a problem. The bacillus can only be cultivated on very acid media. The growth of the coccus albus interferes with its cultivation, unless "vaccinated gelose" is used, in which the coccus albus has already been cultivated. The same effect of abundant and isolated cultures can be secured by slow pasteurization; ten minutes at 65 degrees C. kills the coccus, but does not affect the bacillus. Further details are quoted in the *Presse Méd.* of March 20.

Serum Diagnosis of Typhoid Fever in Norway.—The *Tidsskrift for den Norske Laegeforening* of March 1, contains Dr. P. Aaser's report of the results of this method of diagnosis at the Ullevold Hospital during the epidemic of typhoid that has prevailed at Christiania since last October. Positive results were obtained in 98.9 per cent. of the 91 cases of unmistakable typhoid, and in 5 out of 59 cases in which clinical examination had failed to disclose it. He found that the intensity of the reaction does not depend upon the severity of the disease, some of the lighter cases producing the effect with greater intensity than the graver cases. The length of time required varied also from five to twenty minutes. He stated that the more the culture can be attenuated, without losing its agglutinating and paralyzing power, the more certain the diagnosis with it. He even succeeded with 1 part serum to 1,000 parts culture. Contrary to the experience of some others, he found the reaction continue with the same intensity two to three months after the commencement of the disease, and in the case of a nurse who had passed through an attack of typhoid over a year previously, the reaction was rapid and distinct. He obtained the reaction the third day in 2 cases; the fourth day in 4; the fifth day in 2; the sixth day in 3, and the seventh day in 4; the second week in 24; the third week in 10; the fifth week in 8; the sixth week in 19; the seventh week in 8; the ninth week in 6. Dr. Aaser refers constantly to the article on the subject in this JOURNAL, Feb. 6, 1897, by Appel and Thornbury, and concludes with the generally accepted opinion that while the serum test is not infallible, yet in connection with the syndrome, etc., it is of great practical value.

Perforation of Gastric Ulcer Following Anesthetization.—At the Berlin Society of Obstetrics and Gynecology, a report of which appears in the *Centralblatt für Gynäkologie* for December 5, Kiefer showed a specimen of perforation of the stomach by an ulcer after anesthetization. Four weeks after parturition the patient had been subjected to a secondary suturing operation, presumably on the perineum. Previous to the anesthetization she had been in excellent condition, but she vomited immoderately after it. On the following day she was manifestly in a state of collapse, short-breathed, and complaining of a stabbing pain in the right side. The abdomen was tympanitic, but not very tender on pressure. The pulse was about 120, and there was no elevation of the temperature. She died in about thirty-six hours after the operation. In her last hours she had vomiting of bile, and seems to have gone to sleep quietly after that. As there were no significant abdominal symptoms, embolism suggested itself at first. When the abdomen was opened postmortem the protruding coils of intestine were

accompanied by an abundant escape of liquid that was of a cloudy-yellow appearance and smelled aromatic and alcoholic. The peritoneum, including the serous coat of the intestine, showed recent hyperemia, and was partly covered with lymph. There was a decided hour-glass shape to the stomach, owing to firm adhesions of the cicatricially contracted lesser curvature to the left lobe of the liver in consequence of an old ulcer of the stomach. At the pylorus there was a transverse laceration about two-thirds of an inch long through which the mucous membrane was prolapsed; the neighboring portion of the organ was infiltrated with bile, and there was a recent ulcer of the pylorus. The perforation had not given rise to the hemorrhage. The account leaves it to be inferred that the perforation was due directly to the excessive vomiting that followed the anesthesia. What anesthetic was used is not stated. We must probably include ulcer of the stomach among the morbid conditions that render the vomiting incidental to general surgical anesthesia dangerous. In this instance the ulcer does not seem to have been diagnosticated.—*New York Medical Journal.*

Chlorosis.—As the result of a study of thirty-one cases of chlorosis, with especial reference to the etiology and the dietetic threatment, Simon (*American Journal of the Medical Sciences*, April, 1897, p. 399) has arrived at the conclusion that an anatomic basis for the disease has not yet been satisfactorily made out. Perversion of the appetite, as manifested by excessive consumption of starches and sugars, has been noted as a common symptom of chlorosis. The development of the disease is attributed to an insufficient consumption of animal proteids. The affection is thought to be more common than is generally supposed, and occurs in both sexes and at almost all ages. The diagnosis should be based solely on the results of examination of the blood. It is further recommended that the designation, simple anemia, should be substituted for that of chlorosis. Iron is not believed to be a specific in the treatment of chlorosis. In the treatment especial attention should be given primarily to the diet. In cases in which iron fails to yield good results resort should be had to a suitable diet, of which animal proteids, bone-marrow and dark beer are important constituents. The beneficial effects of bone-marrow are not ascribable to the amount of iron it contains.

Acetanilid in Minor Surgery.—The general practitioner is, at more or less frequent intervals, called upon to do minor surgical work in his office, and an antiseptic dressing that is convenient of application and at the same time reliable is a special need. Many antiseptics, of alleged great germicidal powers, are offered by the manufacturers, but most of them are proprietary articles and high priced. For some time acetanilid has been recognized as one of the best dressings in minor surgery, though it still left something to be desired in the attempts to prevent suppuration. In the *Medical News* of February 6, Dr. W. A. Fallas, Horton, Mich., makes the following suggestions with regard to acetanilid as a dressing. In place of the pure drug, he uses a compound that seems based on good ground, and is said to overcome the weak points of the single substance. He recommends, acetanilid 48 per cent., boric acid, powdered, 15 per cent., starch powdered and finely sifted, 35 per cent., carbolic acid, liquid, 2 per cent. This makes a mixture that is slightly moist, but is practically a dry dressing, and at the same time has stronger powers of absorption than pure acetanilid. Its special advantages are its powerful bactericidal action, freedom from odor, painlessness and cheapness. This latter advantage is one not to be lost sight of, for by reason of this cheapness it may be applied quite profusely, especially to sutured wounds, and in locations generally where absorption into the blood is not to be feared.

Treatment of Prostatic Hypertrophy—Cauterization through the Rectum.—Negretto records four cases of prostatic retention treated with much success by the above method. After thoroughly emptying the rectum, the patient is anesthetized and the rectal speculum passed, the upper part of the bowel is plugged with gauze, and then, under the guidance of the finger, a specially devised hook with graduated stems is passed into the prostate to steady it. The prostate is then cauterized with a Paquelin or galvano-caustic over the extent required. The operation only lasts two minutes. The bowels are kept confined for a few days, and a catheter kept permanently in the bladder for some time. On the sixth or seventh day a purge is given, at the end of ten or twelve days the catheter is removed, and the patient can urinate by himself. The patients were 56, 62, 74 and 78 respectively, and had suffered from prostatic disease from three to five years on an average. In each case cauterization per rectum not only speedily relieved the congestion, but caused a notable diminution in the size of the prostate. The author believes this method to be superior both in its immediate and remote effects to castration or excision of the vas deferens.—*British Medical Journal.*

Veratrum Viride in Eclampsia.—Dr. W. H. Thayer claims that in puerperal convulsions he has found a condition of the nervous system that begets a peculiar tolerance of certain drugs, especially of veratrum viride, so that the officinal dose has no effect. But large doses quiet the nervous erethism, producing a decided effect in a short time—sometimes in fifteen minutes, but almost certainly within an hour—and keeping the nervous system under control for several hours. The administration is followed by cooling of the surface, great lowering of the pulse in rate but not in strength, and along with this complete arrest of the convulsions. The state of the pulse is the guide in treatment. From a high rate, which rules in the disease, it is reduced to the normal standard or below it; and while it is kept below 60 there need be no fear of a recurrence of the paroxysms. When this effect has been once produced, it will continue several hours, and a single dose will do it; if not apparent within an hour or less, the medicine must be repeated in smaller doses; and it can be safely repeated at intervals until the pulse begins to fall. With the pulse for a guide, no untoward symptoms need occur from its use; the pulse may be brought to 50 without any general depression; if carried so far as to produce vomiting we may find great prostration produced by the nausea, which is overcome within thirty or forty minutes by opium or any diffusible stimulant, perhaps in less time by a solution of morphia hypodermically. The employment of veratrum viride in large doses in puerperal convulsions was first reported to the Kings County Medical Society by Dr. Herbert Fearn of Brooklyn, in 1869, substantiated by cases in which he had used dram doses of the tincture, sometimes required to be many times repeated, with favorable results. Since 1869, when Dr. Fearn's paper was read, the treatment of puerperal convulsions with veratrum viride has been slowly gaining favor, of which we have evidence in many communications to various societies and medical journals. Bartholow, in his Materia Medica and Therapeutics (1888) says: "Dr. Sullivan of San Francisco informs me that veratrum viride (half a dram of the fluid extract every fifteen minutes, until nausea or vomiting ensues) is invaluable in puerperal convulsions. Barker, in his 'Puerperal Diseases,' had already called attention to its utility, and Boyd confirms the previous observations. Increasing experience adds to the testimony regarding its exceptional value in relief of this formidable malady." "The experience of one general practitioner in puerperal convulsions is not very great; but in the convulsions of children I have regularly employed veratrum viride for twenty years past with excellent effect, and as a prophylactic in ephemeral fever in children who are subject to convulsions. I believe the use of veratrum viride in puerperal convulsions originated in Brooklyn, where its value is now generally recognized. It has gained ground elsewhere, as rapidly as could be expected of the management of an affection so infrequent, and promises in time to supersede all other methods of treatment."—*Boston Medical and Surgical Journal*, April 1.

THE
Journal of the American Medical Association
PUBLISHED WEEKLY.

SUBSCRIPTION PRICE, INCLUDING POSTAGE:
Per Annum, in Advance $5.00
Single Copies . . . . . 10 Cents.
Subscriptions may begin at any time and be sent to
THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION,
No. 61 Market Street (Occidental Buildings), Chicago, Illinois.

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INFORMATION WANTED.

It would greatly facilitate the prompt delivery of the JOURNAL to those members of the ASSOCIATION living in large cities, if they would kindly furnish this office with their street address in those cases where it is omitted from the wrapper of their JOURNAL, as we have been notified by the postmasters of the larger cities that second-class mail matter not having street address, would be placed in the general delivery to await call.

SATURDAY, APRIL 24, 1897.

THE MEDICAL SIDE OF THE DEPARTMENT OF AGRICULTURE.

Since no one disputes the beneficent act of the man who makes two blades of grass grow where one grew before, it is evident upon slight reflection that wisdom and propriety can not go far astray in attributing to agriculture and all pertaining thereto, the greatest meed of praise for acts and motives so highly commendable. The empirical methods of farmers, gardeners, stock-raisers and others who supply our food either directly or indirectly, are now giving way to the more rational investigation and experiment of skilled biologists, the result of whose work and induction the Government is endeavoring to spread and diffuse gratuitously where it will do the most good. With a view to carry out this purpose a number of properly qualified experts in microscopy, bio-chemistry and veterinary medicine have been for some time quietly at work on various problems of a bucolic nature and with gratifying results. In the well equipped laboratories for pursuing this form of medical industry one finds all appliances for conducting the necessary experimentation, in addition to card catalogues of the literature bearing on the subject, with collections of specimens surpassed by a few only in Germany.

Among the various bulletins, more or less medical, issued by the Department in the last few years those relating to food products deserve more than passing notice. With a more varied and abundant food supply than that of any other country, we find in the United States not only the worst prepared food, but a greater waste and neglect of nutrient material that might be utilized in the interests of frugality. Take, for instance, the edible mushrooms and other allied fungi so rich in quantity and variety both North and South, no less than 111 species being indigenous to North Carolina alone, and in almost every section and climate of the Union are to be found the species common to Continental Europe. During the Arctic cruise of the U. S. Steamer *Courier*, mushrooms might have been gathered by the cart load in the vicinity of Point Barrow, Alaska, but not knowing how to distinguish the comestible from the poisonous species, no one dared eat them, although it is safe to say that all were edible, for as a rule nothing is poisonous in the far north.

Varieties of truffle, edible boletus and puff-ball from great antiquity have been articles of large consumption, and at present are widely cultivated in Europe; but according to a late authority, in the most prosperous and progressive of all countries, with a population of nearly seventy million of people alert to every profitable legitimate business, mushroom-growing, one of the simplest and most remunerative of industries, is almost unknown. As a matter of fact, from an economic point of view the mushroom industry is so profitable when intelligently conducted as to bring in more money than eggs and poultry and with less trouble. Moreover, it is stated that the food value of many species of mushrooms entitles them to a place beside meat as sources of nitrogenous nutriment, and their analysis seems to bear out the statement, being rich in protein, potassium salts and phosphoric acid, fatty matter and a considerable quantity of sugar. As compared with other foods, mushrooms are said to surpass in nitrogenous value bread, oatmeal, barley bread, leguminous fruits and potatoes. In France the popular belief in truffles as an aphrodisiac is as widely prevalent as the use of mushrooms among the peasantry and the working classes in towns, among whom this esculent often takes the place of meat. Indeed, an exclusive diet of mushrooms is so compatible with the preservation of excellent health that a number of investigators report never having enjoyed better health than when living for weeks and months upon mushrooms, and the case of a centenarian is cited who lived upon mushrooms and nothing else for thirty years. So much is to be said upon the alimentary value of mushrooms and their use as a delicate condiment, we wonder why fungiculture is not more in vogue. To the gourmet what more dainty addition to an otherwise prosaic breakfast than that of mushrooms to bacon? And who that has spent much time in Southern France does not recall with dreamy delight the gastronomic ecstasy of eating an omelet with mushrooms, such as a French cook only can prepare? Here

then is an alimentary substance almost equal to meat, which general ignorance of its distinguishing characteristics allows to rot and waste in enormous quantity in our fields and woods. There is also in our country a popular but unfortunate prejudice concerning the use of mushrooms similar to the appendicitis craze in the use of grapes, which time and intelligent instruction only can eradicate. The purpose of the food bulletins is therefore to promote the mushroom industry; to place on the table of the middle classes a wholesome delicacy which before had been restricted to the wealthy; and to give some clear and trustworthy criteria by which to make the essential distinction between the edible species of mushrooms and those that are poisonous. Unhappily this distinction is less easy than might be wished. The old test of the silver spoon, the onion, and milk are not fixed and certain, since some of the most poisonous species are without action upon silver or an onion, or upon new milk. The authorities are that in general all mushrooms should be regarded as suspicious whose flesh changes to blue or greenish color on contact with air; also those having a disagreeable, nauseating or bad odor; or of which the taste is acrid and biting, or the flesh soft, deliquescent, spongy, hard or corky. The flesh of edible mushrooms is usually firm, but tender, exhaling an aromatic odor suggesting freshly ground meal. But these characteristics alone are more or less faulty as diagnostic methods. To avoid error the generic and specific features of the parasite must be studied. It is only by taking into account as much as possible the botanic character, organoleptic properties, and other specific traits that distinguish the species of the mycologic world that we may hope to formulate therefrom practical directions for distinguishing the innocent and edible mushrooms. Happily, muscarin poisoning is not common, though it has been observed; only a few of the species are toxic; some of these are rendered inert by cooking, and their digestibility, like that of other articles of real alimentary value, varies with individuals, temperaments and morbid states.

Equally bearing upon the subject of bromatology is the study of the animal parasites, most of which are enigmas for the biologist and yet a problem for the hygienist. Through the efforts of the medical men connected with the department much light has been thrown upon the history of these strange beings; their organization has been described, their activities revealed and a classification made. One of the latest bulletins on this subject deals with the tapeworms of poultry. To the practical man who asks the use of all this, we have only to mention the valuable aid that such work affords in the inspection of food supplies, the stamping out of disease among domestic animals, the enforcement of cattle quarantine, and the like. As an instance bearing on this point we may cite a pathologic specimen from a sheep erroneously supposed to be infected with tubercle, which caused the whole flock to be condemned and slaughtered. Had the inspector known enough to recognize the existence of a common entozoön the mistake would not have occurred. Again, the subject of trichinous meat much affects our trade relations with Germany. History shows, however, that the disease first occurred in that country in 1875, and a record of all the instances of this disease occurring in the last four years shows that 50 per cent. of them originated in German pigs.

To the average farmer and stock-raiser the subject of parasites in domestic animals is a matter of no little interest. Our old friend the horse, whose sphere of usefulness is being daily lessened by the bicycle, the electric car and the automobile carriage, comes in for a fair share of treatment in the "Special Report on the Diseases of the Horse," which is intended to be distributed to farmers as a safe and scientific guide. It is doubtful, however, whether the mass of farmers, many of whom do not know the "canon bone from the paxwax," care to be told anything about the prehistoric hipparion; or that the horse is a monogastric mammifer, non-ruminating, gyrencephalic perissodactyl ungulate, having three sesamoid bones in the flexor tendon of the foot, no clavicles or gall-bladder, and is unable to vomit. It is also doubtful whether the chapter on disease of the nervous system of the horse will be of much use to the ordinary farmer; since neurology is the most difficult and recondite branch of medicine, and neurologists now doubt the existence of hydrophobia, which the report in question admits is the subject of much controversy and may be mistaken for tetanus.

Since the Saxon days of the *Horsthegn*, government officers have interested themselves in perfecting the breed of horses and other stock; so that now we find the stoutest blood on the turf in animals perfected by fresh strains and full of go and quality. The perfecting of stock being an index that points to a higher state of civilization everything therefore that conduces to that end is praiseworthy, whether it comes from the farmer or the man of science.

European critics accuse our cattle inspectors of being over confident, and one foreign minister in Washington quotes to that effect an outbreak of Texas fever on board a foreign-bound ship in which the cattle that died overnight became dismembered on attempting to hoist them from the hold, so advanced was the decomposition.

As a matter of fact, judicial fairness prompts no very serious criticism in the considerations of the fore-mentioned bulletins. Perhaps a little less zeal is to be commended among the followers of PASTEUR, who make unsound deductions from laboratory diseases with which they have no clinical acquaintance. However, the writers have reported their work with

considerable accuracy of anatomic and morphologic description couched in the special and new terms of mycologic, helminthologic and veterinary language, which we regret to say is such unpopular reading to the average congressional constituent that the leaves of these really valuable publications will come ultimately to such base uses as did the noble dust of ALEXANDER, or find their last resting place as wrapping paper in the corner grocery.

SEWAGE DISPOSAL AND WATER PROTECTION.

The disposal of sewage is the important sanitary problem of the present time and of the immediate future for the people of this country, for, outside of seacoast communities, the condition of natural water supplies will be dependent on the manner in which it is worked out. The rapid growth of our cities, and the increasing volume of their excreta discharged into the water courses, lead the sanitary authorities of every community which pumps up river water for use to give serious consideration to the method of sewage disposal of their neighbors up stream. The consoling reflection that the running stream becomes purified during its flow, is not now available. Aeration, sedimentation, dilution and nitrification have long been recognized by chemists as unreliable purifying agencies in the flow of a stream from city to city; and the typhoid death rates of the down stream settlements tell the same story to the etiologic investigator. England has been at work on this problem for half a century, and it is yet far from being satisfactorily solved. When the Health of Towns Commission, over fifty years ago, aroused public attention to the existing filthy conditions and the want of facilities for even the removal of human excrement, not to speak of its disposal, local authorities vied with each other in the construction of sewerage systems. The cities become cleaner, but at the expense of the streams. Legislation had then to be directed to the protection of the latter, that they might cease to be nuisances in their character of open sewers. Sedimentation or precipitation of the sludge with purification of the liquid was successfully carried out in some instances, but failed in so many others that the attention of sanitary engineers became directed to irrigation and filtration as yielding better results. Many cities with suitable lands in their vicinity succeeded in disposing of their sewage in this way; but the efforts made to improve existing methods, or to discover better methods, indicate that the success achieved does not satisfy the British sanitary authorities. At the present time an experiment is being conducted in Essex, in which the sewage is retained in an underground "septic tank," excluded from light and air to give the anaerobic bacteria opportunity of breaking up the organic matter of the sewage prior to treatment by intermittent filtration (*Lancet*, Dec. 5, 1896); and a somewhat similar method is on trial by the Sutton Urban Council (*Sanitary Record*, Dec. 11, 1896).

We are encouraged to hope that great impetus will be given to progress in the disposal of sewage in this country by the report of the Passaic Valley Sewerage Commission. This Commission, consisting of Dr. ELIAS J. MARSH, Dr. H. C. H. HERROLD and Mr. WILLIAM T. HUNT, was appointed in accordance with an Act of the Legislature of New Jersey, approved Feb., 26, 1896, to consider the subject of the pollution of the Passaic river and of a general system of sewage disposal for the relief of the valley of the Passaic river. The daily discharge of 70,000,000 gallons of sewage into the river below the Great Falls at Paterson, with the deposit of foul-smelling sewage sludge on the shores, is recognized by the Commission as a public nuisance, an injury to health, and an increasing menace to property interests in the valley. The river has lost its former attractiveness for pleasure purposes such as boating, bathing, etc.; its fisheries have been destroyed, and its waters have become unfit for many manufacturing purposes. As a means of relief the Commissioners propose a system of trunk sewers leading from the falls of Paterson to the meadows below Newark, collecting the sewage but not the storm water from the towns and villages of the valley, and discharging near the southern end of Newark bay where the volume of water is great owing to the junction of the Hackensack with the Passaic. The soil of the valley is unfavorable for filtration or irrigation, and chemic disposal works for the various communities would be likely to result in the deterioration of some of them into local nuisances. The estimated cost of the proposed trunk system constructed to meet the wants of a population of 1,500,000, which is represented as the limit of probable increase in 1930, is $6,500,000. To provide for the needful expenditure the Commissioners present a draught of a general enactment calculated to meet the necessities of other drainage districts in the State, as well as that of the Passaic river. Their scheme of action proposes that the water-sheds of the State be recognized as drainage districts, and be treated for legislation as such; that where pollution of the rivers exists of a nature to constitute a public nuisance or to be detrimental to public health, the Governor shall have power to take proceedings under the Act, upon report to the Legislature of a commission especially appointed to consider the subject; and that he shall then appoint three commissioners to take the work of purification and protection in charge. These river commissioners, having defined the territory requiring sewage disposal, would then proceed with the construction of the necessary works. The funds would be obtained by the issue of bonds, the payment of which, with interest, would be provided by assessment upon the communities and the individuals benefited.

The commissioners deserve credit for the able manner in which they have done their work, and for pointing out the necessity for the protection of other drainage areas than that of the Passaic, and the means by which their protection may be effected. The difficulties encountered by them in devising a method for the disposal of sewage, and the protection of a single river within the limits of their own State are suggestive of those that would be encountered, in the absence of National legislation on the subject, in the case where two or more States are concerned. In progress of time we may have a Department of Public Health.

THE PHILADELPHIA SEMI-CENTENNIAL MEETING.

The semi-centennial meeting of the AMERICAN MEDICAL ASSOCIATION, which will be held in Philadelphia June 1, 2, 3 and 4, 1897, bids fair to surpass in the character of the entertainment, the scientific papers and the number in attendance any meeting which has heretofore been held. The committee in charge have been able to obtain large and roomy places of meeting for the general and the Section meetings, all within a single block, and within a very short walking distance or immediately adjacent to the largest and most comfortable of the Philadelphia hotels.

The general meetings of the AMERICAN MEDICAL ASSOCIATION will be held in the Academy of Music, which is an opera house capable of seating nearly three thousand persons, the acoustic properties of which are so excellent that a speaker on the stage can be heard in any part of the house. Immediately across the street from the general meeting place is situated the Hotel Walton, which will be the ASSOCIATION headquarters and which contains no less than five large meeting halls, in which several of the more important Sections will hold their meetings. In this hotel, too, will be given most of the receptions and dinners held by the Sections or private individuals. Immediately to the south of it in the same block is the South Broad Street theater, with a capacity for about fifteen hundred persons, which will be given over to one of the larger Sections, and adjoining this is the Hotel Stenton, in which three Sections will hold their meetings. Immediately south of the Academy of Music, and in the same block on the opposite side of the street from the South Broad Street theater, is situated Horticultural Hall, a building recently erected at a cost of about half a million of dollars and which is supposed to be one of the handsomest and the best hall for acoustic properties in the United States. The main hall of this building will be devoted to the exhibits, and it is interesting to note that nearly all the space in this hall has already been taken by prospective exhibitors. Two or three important Sections of the ASSOCIATION will hold their daily meetings in the large meeting rooms in this building.

It will be seen from this description that the exhibition hall and all the meeting places are situated on both sides of the street within one block, and in this way physicians desiring to hear different papers in different Sections can readily pass from one meeting to another during the course of the morning or afternoon hours. All of the hotels are so large and commodious that they will amply accommodate the 3,000 members which the Committee of Arrangements hope to have in attendance, and nearly all the large hotels, a list of which has already been published in the JOURNAL for April 3, are within five blocks of the meeting places, and several of them not more than a few hundred feet away.

Nor has the Committee been content with arranging for a complete and useful scientific meeting. Efforts have been carried to a successful termination looking toward the entertainment during the hours between the morning and afternoon sessions, and in the evenings, of all the delegates and their wives and daughters, and it has been found possible to so group together these entertainments that only short distances will be traversed from one entertainment to another.

With the reputation which Philadelphia has for hospitality and for the study of scientific medicine, we feel that we can urge our readers most enthusiastically to make every effort to attend this meeting, which bids fair to be an historic occasion in the history of the ASSOCIATION.

BIO-CHEMISTRY AS A RECOGNIZED MEDICAL SPECIALTY.

In the *American Naturalist* for April, Mr. ALBERT MATTHEWS makes a plea for the recognition of bio-chemistry as a special branch of science and for the establishment and endowment of professorships and laboratories for research in this particular line. He shows that the chemistry of living matter, or the chemistry of metabolism, has problems of its own quite apart from those that engage the attention of the specialist in ordinary organic chemistry. The fully qualified bio-chemist should also have his own special qualifications; he should be to some extent a zoologist and a botanist as well as a physiologist, and while he widens his range of knowledge in this way he can best work by restricting his field to the study of the chemical problems of life and the substance of living beings. His specialty is in its way one of the widest, but it is even yet wider when to his duties are added those of the general chemist working on the ordinary problems of analysis and synthesis of organic and inorganic compounds, as is the case with the majority of the professors of chemistry in our colleges and universities. Medical chemistry includes the whole range of inorganic and organic chemistry in the usual curriculum, and its biologic relations are only treated

as side issues to be cultivated as a later post-graduate study, if at all. Yet these are practically and almost exclusively the chemical problems that engage the attention of the practicing physician, and their practical applications are every year becoming more and more extended. Even the most ordinarily qualified doctor has to make use of bio-chemic tests of the secretions and excretions for purposes of diagnosis, and the use of these is constantly increasing. The phenomena of digestion, secretion, reproduction, all require for their understanding, to say nothing of their study, a knowledge of these relations, and the fuller and more accurate this can be the better for the physician and his patrons. Bio-chemistry has, moreover, within the last few years entered the field of therapeutics as well as those of physiology and pathology; the rational use of organic extracts and serum therapy generally depend upon it. It is a necessary adjunct to bacteriology, for it is the toxins the microbes elaborate, not the organisms themselves, that are deadly, and medical chemistry gives us the knowledge of these, and often that of the methods by which we can successfully counteract them. In a word, bio-chemistry is the one thing that bids fair to make therapeutics a system of scientific and rational procedures, instead of being, as it has largely been, only an empirical and unsystematic experimentation upon the complex and too little understood human mechanism.

The propriety, therefore, of making it a special branch in our medical colleges is sufficiently evident. In the post-graduate schools it should be a necessity even now, and the time is probably coming, with the advancing requirements of medical education, when the knowledge of the general principles of inorganic and organic chemistry will be a preliminary requisite for admission to our medical colleges, and their courses of clinical instruction will be confined to the special physiologic and pathologic relations and reactions of chemical substances and compounds. That this field is wide enough for any medical course is sufficiently evident, and it is widening every year.

There is a sort of unworthy satisfaction that we may feel from the fact that according to Mr. MATTHEWS' showing America is not so far behind Europe in her inadequate recognition of this important specialty. In only a few of the great European universities, it appears, are there special chairs of biochemistry, and these few are chiefly those of Austria and Russia. In Germany, where so much work is done in this department, it is mostly by professors filling chairs of physiology and pharmacology, biochemistry by itself being there as yet a generally unrecognized specialty. The same is true of England and France and this country, though excellent work is done in each in this special line. There are, moreover, few special journals in this department, though certain physiologic journals are largely filled with articles on bio-chemic research, notably the *Zeitschrift f. Physiologische Chemie* and *f. Biologie*, *Pflüger's Archiv* and the *Archiv für Experimentelle Pathologie und Pharmacie*, the *British Journal of Physiology*, the *Journal of Experimental Medicine*, and a few others. It is needless to enumerate the important works that treat of this specialty or some one of its departments; their titles should be familiar to any well-informed physician.

Another feature which will undoubtedly come to be considered as a medical necessity is the establishment in our large centers of bio-chemic laboratories for practical purposes, where the more elaborate analyses and examinations which are now coming to be often exacted for diagnostic and other purposes, can be made. These are for the most part impracticable for the average physician, who can go on as heretofore using the simpler tests, but who will be compelled to call in skilled assistance for the more complicated analyses and examinations. Such laboratories already exist in some cities, like Chicago, for example, where one is in profitable operation under Dr. WESENER, and they have long been recognized as essentials to the health departments of our great centers. Their multiplication will be a great advantage to medical research, as well as of practical use to the profession.

Specialties in medicine are, it may be said, numerous enough already, but the truth is they do not exist or prosper except as they meet a need. They are generally practiced before they are actually professed, and that is the case at present with that of bio-chemistry. The time has apparently come for its full recognition by the profession and in our medical instruction.

THE JOURNEY TO MOSCOW.

An arrangement has been made with Thos. Cook & Son, tourist agents, for a round trip to Moscow in August. The party will leave New York on Saturday, July 3, by the North German Lloyd Steamer *Werra*. The steamer calls at Gibraltar July 12 and on July 15 arrives at Naples, where three days will be spent; on July 19 the party will travel to Rome, where four days will be spent; on July 24 travel to Florence, where two days will be spent. Various towns in Italy will be visited; Switzerland will be traversed, thence to Vienna, Warsaw, Moscow, St. Petersburg, Stockholm, Christiania, Hamburg, Bremen, etc., whence they return by the same line to New York, where they expect to arrive September 24. The cost of membership in this party has been fixed at $560. Such well known physicians as the following are among the signers of the circular: Nicholas Senn, Casey A. Wood, Harold N. Moyer, Eugene S. Talbot, D. R. Brower, J. B. Murphy, D. A. K. Steele, B. T. Whitmore.

Let us have a Department of Public Health!

CORRESPONDENCE.

White Glossy Paper Injurious to the Eye.

SAN JOSE, CAL., April 20, 1897.

To the Editor:—It is not often that one will complain of receiving something that is too good, but I do wish to thus complain at present. While the matter and make up, generally, of the JOURNAL OF THE ASSOCIATION have improved to a high point of excellence, the paper-maker has been endeavoring not to be left in the rear; and he has brought up the excellence of the paper on which the JOURNAL is printed to a degree of perfection altogether too high to be acceptable to many readers of the JOURNAL.

As sanitarians and hygienists we ought to practice what we preach. There is not a medical man who will not say at once, when his attention is called to it, that printed matter intended to be read by human eyes—and it is mostly thus intended—should not be impressed on paper of high glossy finish or of glossy finish at all. Some other color than white might be suggested as more comforting to the human eye, but inasmuch as white is the color of paper generally used for printed matter it ought to be a dead white with slighly yellowish tinge. Any white surface reflects light, but when it has the gloss of a looking-glass it does so in high degree. The reflections from glossy paper cause greater contractions of the pupil than would occur if the paper were dead white. And further such reflections dim the letters, relatively, on the same principle that we can not see the stars when the sun is shining. Not only should the JOURNAL be printed on paper of proper texture and finish but we, as conservators of public health, should insist that all books be printed on paper the most pleasing to the eye and the most preservative of human vision. Most respectfully,

A. C. SIMONTON, M.D.

ANSWER: We have several times asked leading members of the Section on Ophthalmology to discuss the question of the paper on which our JOURNAL should be printed, its quality, color and finish, but nothing has been done. This year it is hoped that the Section will give their opinion. The Ophthalmology Section is one of the strongest in the ASSOCIATION, and its deliberate judgment will be generally acquiesced in.

Medical Instruction of the Laity in the Lay Press.

GALESBURG, ILL., April 13, 1897.

To the Editor:—It is certainly unwise for physicians to attempt professional instruction of the laity in the lay press by means of signed articles. In the first place, such articles blur the distinctions between their writers and advertising charlatans; in the second place, the tendency in such articles is to say the brilliant rather than the true.

Yet, after all, should not the laity be instructed medically in the lay press? By all means. The instruction in physiology and hygiene presented in the common schools is distinctly inadequate and is, moreover, imparted to the learner at a time of his life when he can not by any possibility correctly estimate its importance and therefore the necessity of remembering it far on into later years. Besides, in the common schools practically nothing is said of disease. It might be urged that the less the laity learns of disease, the better for the laity. But notions of disease, superficial though they necessarily are, the laity will have, and if it does not get them from doctors, it will get them from almanacs, fences, barns and billboards.

To anyone practicing medicine it would seem unnecessary to urge the immense amount of harm that comes from widespread medical misinformation. The worry and depression in cases of disease that are either slight or non-existent; the difficulty on the part of physicians to secure intelligent coöperation, especially in the country; the enormous amount of injury from the use of patent medicines; the large number of lives lost that might have been saved had the patients had in time the slightest inkling of the real nature of their maladies; these are a few of the considerations which to any thinking physician present themselves at once.

How should the matter be gone about? The plan, it would seem, should be this. Let a competent staff be chosen yearly from among the members of the AMERICAN MEDICAL ASSOCIATION, whose duty it should be to furnish a very large proportion of the lay press (as literary syndicates furnish stories, poems and the like, but without cost to the press) a considerable number of unsigned articles (simple, clear and honest) on such subjects as would seem to the staff as a whole to be proper and important for the general public to consider. Plenty of competent writers would lend themselves to the purpose.

Let it be borne in mind that the subject chosen should be such as seems to the staff as a whole proper and important for the general public to consider. There is no doubt that a staff chosen from among the members of the AMERICAN MEDICAL ASSOCIATION could be altogether trusted to make a wise choice of subjects. Some of the possible themes that suggest themselves to the present writer are these: Why Promiscuous Spitting should be Prohibited. Why Legitimate Physicians do not Advertise. What not to do while waiting for the Doctor. The Truth about Catarrh. Some of the Swindling Methods of "Traveling Physicians." Pain in the Back no sign of Bright's Disease. Old and Discarded Methods of Treatment Revived under new names by Quacks. On these and a multitude of other topics, the laity is sadly in need of information.

It might, of course, be contended that the masses simply will not learn. But it is certainly true that the masses do learn, only they learn the wrong things; and may not a partial explanation of that fact be found in the further fact that the right things are so seldom, indeed almost never, presented to them? Then, again, all people are not blockheads, and there are no doubt in existence a number of persons who might, good sooth, have comprehended some medical matters, but who merely happen never to have studied medicine. Finally, to present to the laity the truth about matters concerning which the laity is already in possession of the error, certainly could do no harm.

THOS. H. SHASTID, M.D.

Weak Cylindric Lenses.

BOSTON, April 12, 1897.

To the Editor:—I notice in an editorial in the JOURNAL of April 10, on page 709, "'Oculist' Taylor who cured all sorts of diseases by operations and manipulations on eyes, after the cylinder quackery of today." Several years ago the Editor of the JOURNAL appeared in an editorial in which he expressed disbelief in the efficiency of cylindric lenses of as low degree as one-half a dioptrie, in relieving symptoms of an asthenopic or reflex nature. At that time he was answered by ophthalmologists from various parts of the country, testifying as to the efficiency of weak cylindric lenses, but this does not seem to have convinced our editor, and so the continuation of his remarks about the "cylinder quackery of today." If the unanimous opinion of ophthalmologists at that time did nothing to convince him, it would seem as if something stronger was required; and it would be well for him to refer to the writings of Dr. S. W. Mitchell of Philadelphia on the subject of reflex disturbances in relation to eye diseases; as it has often been said that by him, more than by any one else, has the attention of the profession been called to this matter.

WM. E. BAXTER, M.D.

ANSWER: The original editorial to which our valued correspondent takes exception was written by a distinguished member of the Ophthalmology Section and of many of the ophthalmic societies of the country. The *last* editorial was written against quack practices, not against any one engaged in honest work.

Physician's Duty to Husband and Syphilitic Wife.

KEARNEY, NEB., April 14, 1897.

To the Editor:—Will you please enlighten me as to my duty in the following matter. About three months since, a married lady came to this city to visit her parents. She and her husband had been living in a distant State. A few weeks after her arrival here, she called upon me for advice concerning a rash which practically occupied the entire cutaneous surface. Her mother accompanied her at the first call. Each of them insisted on knowing my diagnosis. In the presence of her mother I stated that she had a papular eczema of which she could be relieved within the course of a month. Within a few days the patient called alone, when I told her she had syphilis, and this papular eruption was one of its constitutional manifestations. She did not manifest any surprise and thanked me for my discretion before her mother. Within a month I received a letter from her husband demanding my diagnosis in the case of his wife. I could easily see between the lines that his suspicions were aroused. I did not disclose her malady to the husband. He writes again insisting on my diagnosis. What is my duty? H. S. B., M.D.

ANSWER: Refer him to his wife; she alone in this case has the right to disclose the nature of her illness.

ASSOCIATION NEWS.

Special Exercises at the Jubilee Meeting.—The Committee of Arrangements has set aside an hour on the second day of the meeting for exercises to commemorate the founding of the ASSOCIATION in Philadelphia in 1847. The founders of the ASSOCIATION believed that it would raise the standard of medical education and combine the medical profession of the United States in one body. Dr. Davis, who is recognized by all as the moving spirit in the enterprise, will read a short paper, giving an account of the origin of the ASSOCIATION and how the objects for which it was founded have been attained. The committee has taken steps to secure the attendance at the meeting of the presidents of the State Medical Societies and the presidents of the State Boards of Medical Examiners as an illustration of the success attained through the instrumentality of the ASSOCIATION.

In addition to the address of Dr. Davis, there will be two or three other short addresses to add to the interest of the occasion. It is desired that the presidents of all State Boards of Medical Examiners and of all State Medical Societies meet Dr. Davis a few minutes before his address, in order that they may escort him to the stage. In the event of the president of any one of these organizations not being able to attend the meeting, he is requested to send as an alternate one of the ex-presidents, in order that every State society and every examining board may be represented upon this notable occasion.

Of the original members of the ASSOCIATION there are still living, Dr. N. S. Davis of Chicago, Dr. Alfred Stillé of Philadelphia, Dr. John B. Johnson of St. Louis and Dr. David F. Atwater of Springfield, Mass. The committee hopes that these gentlemen will all be present to take part in the meeting.

JOHN B. ROBERTS, M.D.,
Chairman Committee on Anniversary Exercises.

Section **on Dermatology and Syphilography.**—Preliminary program:

TUESDAY, JUNE 1ST—AFTERNOON SESSION.

Address of the Chairman. A. Ravogli, Cincinnati, Ohio.
Report of the Secretary. T. C. Gilchrist, Baltimore, Md.
Report of the Executive Committee. L. D. Bulkley, New York; A. H. Ohmann-Dumesnil, St. Louis, Mo.; A. E. Regensburger, San Francisco, Cal.
Miscellaneous Business.
1. An Attempt to Classify the Clinical Varieties of Eczema, with special Reference to their relative Frequency and Importance. Edward Preble, Cleveland, Ohio.
2. Report on Carrasquilla's Serum Cure of Leprosy. Albert S. Ashmead, New York.
3. The Treatment of Skin Cancer. John V. Shoemaker, Philadelphia.
4. Electricity in Dermatology. Robert B. Morison, Baltimore, Md.
5. Appointment of Nominating Committee.

DINNER OF THE SECTION—8 P.M.

WEDNESDAY, JUNE 2D—MORNING SESSION.

6. Neurotic Eczema. L. Duncan Bulkley, New York.
7. A Localized Epidemic of Impetigo Contagiosa. [A. H. Ohmann-Dumesnil, St. Louis, Mo.
8. Ulerythema Sycosiforme, with Report of a Case. J. Abbott Cantrell and Jay F. Schamberg, Philadelphia.
9. Lantern Slide Exhibition of Clinical Cases and Pathologic Conditions in Dermatology. J. A. Fordyce, New York.

WEDNESDAY, JUNE 2D—AFTERNOON SESSION.

Report of Nominating Committee.
Election of Officers of Section.
10. The Successful Management of a Case of Psoriasis Colossus by Hydrialin Treatment. Elmer Lee, Chicago, Ill.
11. The Tongue as it Interests the Dermatologist. Charles W. Allen, New York.
12. The Use and Abuse of the Iodids in the Treatment of Syphilis. C. Travis Drennen, Hot Springs, Ark.
13. On Various Forms of Cutaneous Tuberculosis. A. Ravogli, Cincinnati, Ohio.

THURSDAY, JUNE 3D—MORNING SESSION.

Clinical demonstrations.
14. The Effect of Erysipelas and its Toxins upon certain Diseases of the Skin. B. Foster, St. Paul, Minn.
15. Remarks on the Symptoms and Nature of Erythema Multiforme. Louis A. Duhring, Philadelphia.
16. Mycosis Fungoides, with Report of a Case. John V. Shoemaker, Philadelphia.
17. Some Remarks Concerning Acne Vulgaris. T. C. Gilchrist, Baltimore, Md.

THURSDAY, JUNE 3D—AFTERNOON SESSION.

18. On a New Method of Pictorial Representation of Diseases of the Skin. Wm. S. Gottheil, New York.
19. Three Cases of Tuberculosis Cutis Verrucosa. M. B. Hartzell, Philadelphia, Pa.
20. Demonstration of Clinical Printings and Photographs of Diseases or the Skin. J. A. Fordyce, New York.
21. Syphilis in Reference to Marriage. Discussion opened by L. Duncan Bulkley, New York, and discussed by Joseph Ransohoff and A. Ravogli, Cincinnati, and Charles W. Allen, New York.

PUBLIC HEALTH.

The Smoke Nuisance at Cleveland.—Partisan politics in the management of municipal health is as damaging as la grippe to the human organism. This trite observation is suggested by the situation of affairs in our own city. A few months since a smoke ordinance was passed by the council, which was guaranteed to be legal, and the administration announced with blare of trumpets that the smoke nuisance had to go. Not only has the smoke not gone—that was not to be expected—but complaints entered at the health office against specific chimneys, which are and have long been doing definite damage to adjoining property, are met with empty promises and the sly hint that after the coming spring campaign for city offices it may be more convenient to enforce the law. In other words, the laws are used to aid the cause of candidates and parties, and the officers who swore to enforce the laws do so only when it suits the convenience of themselves and their political cohorts. It is a disgrace to the city that the enforcement of the laws must abide the sweet pleasure of our ward politicians. —*Cleveland Journal of Medicine*, March.

Mortality by Influenza in New York State.—The *Bulletin* of that Board states that in February there was a mortality by la grippe estimated at 300 deaths; or 200 less than in the same month in 1896. In March, there were 700 deaths estimated by the same

cause. At the same time the general death rate of the State in February mounted up to 19.0 per 1,000 as compared with 17.25, the rate for January, 1897; the average for February, for the past ten years, was 18.35 per 1,000. The totals by acute respiratory diseases were 254 higher in February, 1897, than in January, the same year. The infantile mortality was relatively small, 28 per cent., as is usual in the times of influenzal prevalence. We notice in a recent New York city official bulletin that no less than seventeen deaths occurred by influenza in a single week out of a total death-toll of 839; only one other zymotic cause, namely diphtheria, showing a higher total. When we consider the slowness with which some practitioners accept influenza (or any other of the newer causes) as death-causes, we think we are not mistaken in assuming that la grippe is capable of making very serious ravages; a position that we have not always found it easy to accept.

School Admissions in 1996.—Questions likely to be put to a child on application for admission to school, in 1996:

Teacher—Young man, have you a certificate of vaccination against smallpox? Pupil—Yes, sir.

Teacher—Have you been inoculated against croup? Pupil—Yes, sir.

Teacher—Have you been treated with antidiphtheritic serum? Pupil—Yes, sir.

Teacher—Have you a written guaranty of immunity against whooping cough, measles, mumps and scarlet fever? Pupil—Yes, sir.

Teacher—Have you an individual drinking cup? Pupil—Yes, sir.

Teacher—Do you promise never to exchange pens with your neighbors? Pupil—Yes, sir.

Teacher—You are supposed to be convinced of the necessity of disinfecting, at least once a week, with sulphur vapors, and of sprinkling your clothing with chlorid of lime? Pupil—Yes, sir.

Teacher—Then you possess all that modern hygienists require of a pupil; you may pass up these steps, be seated upon your separate aluminum bench, and begin to write your p's and q's.—*Deut. Med. Zeitung.*

Limit of Power of State Board of Health as to Vaccination.—A very important decision, but one which has been misstated in some early press reports, was handed down by the supreme court of Wisconsin, Feb. 23, 1897, in the case of State v. Burdge. The court particularly disclaimed expressing any opinion on the question of the validity of legislation making vaccination of children attending school compulsory. At the same time, it rather gives one the impression that it would uphold a statute of that character. What it did decide had reference to the power of the State board of health to make a rule that no child should be allowed to attend any public or private school in the State, without first presenting the certificate of a reputable physician as to having been successfully vaccinated. There is no statute in Wisconsin authorizing compulsory vaccination, or requiring vaccination as one of the conditions of attending the public schools. In the absence of any such statute, the supreme court holds that it can not be maintained that such a rule as the foregoing is a valid exercise of the powers of the State board of health. It says that the State board of health is a creation of the statute and has only such power as the statute confers. It has no common-law powers. In Wisconsin it is given "a general supervision throughout the State of the interests of the health and life of citizens," and is authorized "to make such rules and regulations and to take such measures as may, in its judgment, be necessary for the protection of the people from Asiatic cholera, or other dangerous contagious disease," the term "dangerous and contagious diseases," to be "construed and understood to mean such diseases as the State board of health shall designate as contagious and dangerous to the public health." But its powers, though quite general in terms, the court holds, must be held to be limited to the enforcement of some statute relating to some particular condition or emergency in respect to the public health. It has no "legislative power," and none can be delegated to it. Consequently, so far as the statute just quoted delegates legislative power over the subject involved, rather than provides for the administering and carrying into effect of some substantive provision, it is unconstitutional, and furnishes no authority for anything like legislation on the part of the State board of health. The rule which the latter promulgated is also pronounced unreasonable, and therefore void.

New York Quarantine Laboratory.—Drs. Doty and Fitzgerald, at the Swinburn Island laboratory of the New York Quarantine Station, have been hard at work since the middle of February in initiating the production of an American anti-pest serum. The first horse was inoculated with a culture of plague bacilli on February 26. This was repeated on March 4, and again on March 9. For the purpose of determining how early the serum might have acquired antitoxic qualities, about one pint of blood was drawn from the horse on March 15 for experimental purposes, and from this one-half pint of serum was obtained. One cubic centimeter of this was injected into each of a number of white mice. After thirteen hours they were inoculated with a culture of the plague bacilli. These mice did not die, but several mice into which the serum had not been injected died, thus showing the efficacy of the serum in the cases of those that lived. Tests were also made to ascertain the curative power of the serum, but they did not prove satisfactory, although in most cases they prolonged life, and in one case a cure was effected. These tests were made by inoculating mice with the deadly dose referred to, which killed in twenty-four hours, but within three to twelve hours after the first injection they were treated with one cubic centimeter of the serum. These tests indicate that the serum in the horse is surely both preventive and curative. Other tests with blood from the same horse will be made. According to the investigations made by Dr. Doty, to Dr. Yersin of the Pasteur Institute in Paris, is due the credit of the discovery of the bacillus of the bubonic plague; although it must be admitted that Kitasato is a close competitor, one writer claiming that there was not more three weeks' difference between the two and that that difference is in favor of Kitasato. Now then, let the interesting question be looked into: By whom and at what date did either of them place their discovery upon the printed page. Dr. Doty is proceeding cautiously and slowly, bearing in mind the experience and teaching of Yersin that the proper development of an anti-pest serum demands much time and prolonged treatment of the animals under the toxins. After the discovery was made a bacteriologic laboratory was founded on the Annam coast, in China, about one year and a half ago, for the study of the serum treatment of the plague. The opportunity to test the serum came when the plague broke out in China. Out of twenty-five cases treated by Dr. Yersin, twenty-three recovered. In the course of his experiments Dr. Yersin found that mice, rats and pigs were stricken before human beings. He decided that these animals possessed special receptivity for the plague, and that they would be serviceable to him on that account in his experimental work. Dr. Yersin placed healthy animals in contact with those inoculated and found that the latter died first, but in a few days the sound animals died one after the other, the plague bacilli being found in their organs at postmortem. They had therefore taken the plague by simple propinquity. These facts proved that the plague is a contagious disease that can be inoculated.

NECROLOGY.

FREDERICK W. WHITTEMORE, M.D., Harvard, 1878, died at his home in Cambridge, Mass., April 14.

THOMAS SPENCER DAWES, M.D., Albany, N. Y., 1848, died at his home in Saugertres, N. Y., April 11, aged 76 years. He was born in Cummington, Mass., of which State his brother Henry L. Dawes served as senator.

THOMAS S. BAHAN, M.D., New York University Medical College, 1856, died at his country home in Douglaston, Long Island, N. Y., April 6, from cerebral softening. He was born in St. Johns, New Brunswick, came to New York in 1853, and began his professional career in what was then Greenwich village. He served as surgeon in charge of the Park Barracks throughout the war, was long attending physician to the Northern Dispensary and had identified himself with most of

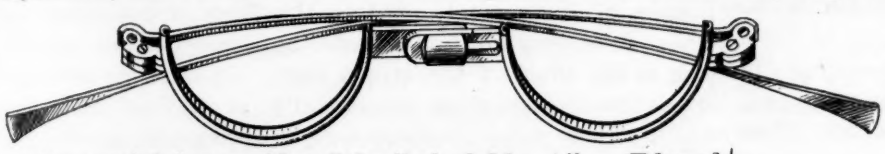
the medical societies. As a family physician he won an enviable reputation for skill and culture. A few years ago he lost a promising son, who was drowned while asleep in the Doctor's yacht, as the result of a collision, for which the pilot of a tugboat was imprisoned for criminal carelessness. A widow and two sons survive him.

NEW INSTRUMENTS.

A PRESBYOPIC TRIAL FRAME.

ALBERT B. HALE, M.D.
CHICAGO.

A few weeks ago I had occasion to ask a patient to sit in my office for some time, for the purpose of testing the efficacy of glasses at the reading distance before I finally prescribed them. On measuring the pupillary distance, however, I was annoyed to discover that I had nothing at all suitable to her case, for the greatest distance I dared allow was 55 mm., while the smallest frame I had was not under 60 mm., and as it was a decentration I wished to avoid, I was obliged to postpone the trial till another day. Meanwhile, I investigated frames, but could find nothing in a small, light presbyopic frame that was adjustable, and I am sure that it is not at present to be found.



After explaining my idea, I finally had Mr. Allen (Edward Allen & Co., 80 Dearborn Street, Chicago) make the frame, of which this illustration is the best description. (The cost is three dollars.) It explains itself. By means of traction the button connecting the two sides by a mild spring, yields, so that the pupillary distance is modified without changing the symmetry of the frame itself. The frame is as light as any other, and causes no inconvenience to a patient. It allows of a pupillary distance of from 54 mm. to 65 mm., certainly suitable to any but an extraordinary head, and by its use the adjustment can be so accurate that the usual cause of dislike to the trial frame (decentration) is well avoided. The frame can be made, at a small increase in cost, to hold two lenses on each side, if so desired.

Columbus Memorial Building.

FOR THE APPLICATION OF COCAIN TO THE UVULA.

HENRY W. WANDLESS, M.D.
Chief Surgeon Dallas Charitable Eye, Ear, Nose and Throat Infirmary; Consulting Oculist and Aurist M. K. & T. Ry.
DALLAS, TEX.

There is always more or less difficulty to anesthetize the uvula with cocain by making application with cotton on a carrier. I had for several years used cotton on a toothpick, with very little satisfaction, and seldom getting the uvula insensible.

The first attempt usually produces reflex spasms of the soft palate and faucial muscles. Rubbing the uvula with cotton keeps up this effect until the mucous membrane of the uvula is insensible to the touch. This is very disagreeable to the patient; besides, the cocain by contact spreads over the base of the tongue, the pharyngeal wall and the larynx. This often produces nausea and discomfort.

I have devised a little instrument, shown in the cut, which has none of the objectionable features of the cotton probe method; besides, it does its work thoroughly and is no trouble at all. Its general contour is that of a spoon, its bowl being deeper and more uniform. The handle is curved so as not to obstruct the light, and is seven inches in length; flat, so as to prevent rotation in the fingers emptying its contents into the mouth. Its bowl is three-fourths of an inch long, five-eighths broad and five-sixteenths deep.

To use this instrument, place a few drops of solution of cocain in the bowl, and if the patient can not lower the base of his tongue unaided, lower it with a smooth tongue depressor, place the instrument under the uvula and allow it (the uvula) to drop into the solution loosely. The moment the uvula comes in contact with the cocain solution the latter rises up the moist surface of the uvula to a considerable height above the level of the cocain by a sort of capillary attraction. Rarely will the touch be noticed, if the touch is gentle. After holding it there for a minute perhaps, and before the patient makes an effort to swallow (which he will do), withdraw the instrument, allowing the uvula to drag over the posterior lip of the bowl to dislodge any excess of the cocain that may adhere to it, thus preventing it from being deposited in the mouth. A better way is (having withdrawn the applicator) to touch the uvula with a pledget of absorbent cotton previously prepared. Repeat this application with a fresh solution once or twice at intervals of one or two minutes and you will find that in about eight minutes the anesthesia is complete and the operation may be proceeded with without pain.

For the last year or two I have used a roughly constructed instrument made by myself by inserting the handle of a pepsin dose spoon into a laryngeal mirror handle, which answered the purpose very well.

PHIMOSIS FORCEPS.

Salvatore, an Italian military surgeon, has invented a phimosis forceps which is described and illustrated in the *Gaz. d. Osp. e d. Clin.* of March 7. He claims that it totally prevents hemorrhage; the total anesthesia is so complete that the patient is merely an indifferent spectator of the operation, and there is no danger with it of injuring the organ, which afterward presents a normal appearance with no indications of having undergone surgical treatment. The instrument consists of two strips of metal fastened together at one end and in contact at the other, where there is a screw thread and thumb screw to graduate the space between them, as the two strips form an open ellipse, like a wagon spring. Each is pierced with a row of holes.

BOOK NOTICES.

Vita Medica; Chapters of Medical Life and Work. By Sir BENJAMIN WARD RICHARDSON, M.D., LL.D., F.R.S. New York and Bombay: Longmans, Green & Co. Pp. xvi and 496. 1897.

"These chapters of 'Vita Medica' were finished by my father on Wednesday, Nov. 18, 1896, just before 8 o'clock in the evening. At 10 he was seized with the illness which ended fatally on Saturday morning, November 21.

"The last proofs were not revised by my father, and, but for the few corrections that could be made without him, the book is published as it left his hands.

"BERTRAM RICHARDSON."

This book is, as its name imports, a history of the medical life of Richardson. The accounts of the early experiments with peroxid of hydrogen, antiseptics, studies on blood, sanitation, anesthesia, alcoholism, nervous centers, the germ theory, vital phosphorescence, are very interesting. The charming manner in which the story is told, showing as it does the personality of the author, makes the book one to be sought after. The last twenty years have been rich in autobiographies of distinguished medical men, and among them all we must place this of Dr. Richardson as one of the very best of its class. It does not deal directly with the personal life of the author, yet his medical life has been so inseparable from it as to give us a glimpse of character at once admirable and worthy of imitation.

The many readers of Richardson's works in this country will be pleased with the perusal of this book.

The Retrospect of Practical Medicine and Surgery. Edited by JAMES BRAITHWAITE, M.D., Lond., assisted by E. F. TREVELYAN, M.D., Lond., B.Sc., M.R.C.P. Vol. CXIV., January, 1897. New York: G. P. Putnam's Sons. 8vo, pp. xv and 435. 1897.

Braithwaite, with its careful selections, conservative compilation and successful skimming of medical literature, has given us the clear crystal in this number.

Hypnotism and Its Application to Practical Medicine. By OTTO GEORG WETTERSTRAND, M.D. Translation from the German Edition by Henrik G. Peterson, M.D., together with "Medical Letters on Hypno-suggestion, etc.," by Henrik G. Peterson, M.D. Pp. xvii and 166. New York and London: G. P. Putnam's Sons. 1897.

This work has appeared in Swedish, German and Russian, and now, thanks to Dr. Peterson of Boston, it appears in English.

The therapeutic uses of hypnotism are becoming every day better known and its value more and more apparent.

Wetterstrand's work is a clinical report of great value, and his cases are commented upon with a profound knowledge of psychology, and evident sincerity. The book is timely and very instructive, as it teaches how to bring hypnotism within the control of the practitioner as a powerful addition to his armamentarium against suffering.

A Manual of Physiology with Practical Exercises. By G. N. STEWART, M.A., D.Sc., M.D., D.P.H., etc., with numerous illustrations including five colored plates. Pp. 796. Price $3.50 net. Philadelphia: W. B. Saunders.

[From W. T. Keener, Agt., 95 Washington St., Chicago.]

A modern manual of physiology intended for the systematic study and as a guide for the laboratory.

The work is a thorough-going one, well illustrated, and modern in its method. We no longer have those smoothly flowing treatises on physiology that made the earlier works so popular; on the contrary, the modern physiology has come to be a mathematico-chemic statement concerning the functions of the body based on careful observation and accurate knowledge. While thus the romantic has disappeared, in its place has come science and the power that grows from it, and there is still enough of the marvelous in the study of the actual processes of nature to keep up a strong interest.

MISCELLANY.

A French Hospital at London.—The *Figaro* announce that the Baronne de Hirsch had followed up her gift of two million francs to the Pasteur Institute by a donation of one million francs for the foundation of a hospital in London, and several charitable institutions in Paris have just received large sums of money. It is estimated, says the *Figaro*, that in two months the Baronne de Hirsch has distributed in France, England and Austria eleven million francs.

The Bubonic Plague in Art.—The *Gaz. d. Osp. e d. Clin.*, of January, 31, has an engraving of a famous painting in a church at Verona, which represents St. Rocco, a holy philanthropist and pilgrim, who had the plague and recovered. He is showing the spot on his thigh where the characteristic lesion is seen through a slit in his garment; location and appearance are clinically correct. The cut is too blurred for reproduction. Raphael and others have portrayed the scenes of desolation during the plague, and the old masters were "realists" more than is supposed. Charcot recognized, centuries after, the clinical picture of glosso-labial hemispasm in a certain well known painting at Venice.

The Plague Abroad.—The Sultan of Morocco has prohibited the annual pilgrimage of Moslems to Mecca on the ground that the prevalence of the plague along the usual route is a direct menace to the public health. This is significant in the face of the fact that this is the first issue of any such general order. Somewhat antithetical to this handsome submission to popular demand is the printed dispatch from Bombay in the London *Daily Mail* of March 29. This recounts that on the preceding Saturday "a Mahometan, while living in the city with his wife, refused to allow her to submit herself to the prescribed inspection. The officials insisted, whereupon the Moslem drew his dagger and stabbed her to the heart. Then he stabbed the official physician and attempted to kill himself." The dispatch above alluded to likewise adds the information: "The plague is spreading rapidly in Bulsar and Gujerat, and its ravages are terrible."

The Nose and Menstruation.—The fact has been observed that the nasal mucosa undergoes certain modifications during the menstrual period, turgescence, exaggerated sensitiveness, tendency to hemorrhage and cyanotic discoloration. Fliess, of Berlin, has been studying this phenomenon and has found that a certain form of dysmenorrhea, in which the pains continue after the commencement of the menstrual discharge, is largely dependent upon the nose. He applies the term genital to those parts of the nose where these manifestations are most intense, namely the inferior turbinate bones and the tubercula septi. Lesions of these points produce this form of dysmenorrhea, while their cocainization arrests the dysmenorrheic pain as long as the effect of the cocain lasts. Cauterizing will also arrest the dysmenorrhea permanently, or at least for a long while. These nasal congestions occur during pregnancy at the time when the menses would otherwise occur.—*Reported at the Ges. f. Geb. und Gyn.*, December 11.

The Anti-Plague Serum.—Dr. Solomon of Louisville, in the *American Practitioner and News*, March 6, gives the most recent summary of the researches that are being made by Yersin and others upon the specific treatment of the plague. He says that Yersin, Calmette and Borrel are supplying us with an antitoxin which they obtain from the rabbit, the guinea pig or the horse, any one of which may be rendered immune by careful experimentation. This antitoxin has as yet seemed to do all that was claimed for it, namely, immunize animals which were about to receive injections of virulent bacilli, and cure others which had received an injection of virulent bacilli, yet were not too far gone to be saved. The theory which Behring applies to the workings of diphtheria antitoxin, and which is quoted in full in a letter addressed to the *Practitioner and News* from Berlin, last February, is applicable to all antitoxins and will bear brief repetition here. Behring says antitoxin prevents diphtheria by rendering cells immune before they have been poisoned by diphtheria toxin. A cell once poisoned is no longer capable of being rendered immune by antitoxin. Therefore give the antitoxin early and before the bulk of cells in the animal organism have been so changed by diphtheria toxin that they can not longer take up diphtheria antitoxin. A late issue of the *Progrès Médical* makes mention of the fact that Dr. Ortner and Prof. Albrecht, both of Vienna, have been sent by the Academy of Medicine to Bombay to make investigations relative to plague. The profession all over the world may congratulate themselves that these two men have been selected to do so important a work. Ortner, who is first assistant to Neusser, is one of the most painstaking and careful clinicians of Europe. Although scarcely 30 years of age, his position among the profession in Vienna, and the high esteem in which he is held are enviable. A Bohemian by birth, he combines with that keen far-sightedness characteristic of his people an indomitable energy. "Albrecht is equally as well equipped in his specialty and is too well known by Americans who study medicine (pathology) in Vienna to need any praise from me. His theme is microscopic pathology and he ranks with Kolisko and Weichselbaum, who teach microscopic pathology. I repeat what I heard said of him by a colleague: 'I have never seen a pathologic slide placed before Albrecht that he could not immediately diagnose it.'"

All the Easy Questions in Science Have Been Solved.—President David S. Jordan of the Leland University, California, in a letter to the *Popular Science Monthly*, has stated that "Scientific investigators are not wizards;" their discoveries are not presaged by uncanny feelings nor green darkness, nor is there anything occult about their ways of working; they are simply men of unusual persistence and steady common sense. Everything easy was found out long ago, and additions to knowledge can only come from mastery of past achievements and mathematical accuracy in the registration of small details. The progress of science is not marked by surprises and contradictions. The result of scientific inquiry comes as a surprise only to those ignorant of the steps in investigation which leads up to it. The discovery that the peculiar rays, called "X" by Röntgen, could be made to cast shadows on a sensitized plate does not imply, as has been intimated by some, that thought can be photographed. One might sooner expect to photograph the songs of birds than "the cat's idea of man." The great power which exact knowledge gives adds nothing to the probability of the mythology of our own or other times. The "power of mind over matter" is not a form of hysterics. It depends on exact knowledge of the nature of material things. It is no occult influence showing itself in neurotic "adepts" by uncanny lights, under "astral" conditions. It is greatest by daylight, with sane men, among whom science is simply enlightened "common sense."

Colleges.

The annual commencement of the Atlanta Medical College, was held March 30. There were 38 graduates.——The fourth annual commencement of the Wisconsin College of Physicians and Surgeons, Milwaukee, was held April 6. Thirty students were graduated.——The annual commencement of the Barnes Medical College, St. Louis, was held April 6, and 116 were graduated.—The annual commencement of the Southern Medical College was held March 30. There were 30 graduates.——The tenth annual commencement of the Gross Medical College, Denver, Colo., was held April 8. There were 15 graduates.——The commencement exercises of the Baltimore Medical College, Md., were held April 8.

Hospitals.

The tenth anniversary of the opening of the St. Margaret's Hospital at Kansas City was celebrated April 5. The total number of patients treated has increased from 545 in the first year to 1,868 during the past year.——The Board of Health of Lambertville, N. J., has secured St. Andrew's Episcopal Church parish building to fit up a hospital for typhoid fever patients. There are said to be about twenty cases in the town.——A movement is on foot in Germantown, Pa., for the establishment of a non-sectarian hospital on the west side of that suburb. The institution is to be modeled after the Bellevue Hospital in New York and will not conflict with the Germantown Hospital.

New York.

A House of Refuge Quarantined.—The New York Board of Health have ordered for Randall's Island a quarantine of the House of Refuge, an institution conducted by a private corporation known as the Society for the Reformation of Juvenile Delinquents. The resolution adopted asserts that the drainage is poor and that proper nurses have not been provided for the children, about 800 in all, some of whom are suffering from contagious as well as eye-diseases which may end in blindness. There is now no physician in charge, resignations and dissatisfaction being in order. To the allegations the President of the Society replies in effect that unless the State legislature votes an appropriation the institution can not be maintained, nothing being allowed for the improvement of the realty; that the property can not be turned over to the State, since the land was given to the managers with the proviso that it would revert to the city, when the society ceased to fulfil the conditions of its being; that except the lighting and the plumbing, the buildings are in good condition; that the statistics are not awry, considering that children are sent from all the counties bordering on or near the Atlantic, including all of Long Island, New York, Albany and Rensselaer Counties, their particular House of Refuge admitting by order more children than the other two reformatories of the State; and further that there has not recently been a death in the institution, besides too contrary to statement that there has been no scarlet fever or diphtheria, while the sixty-eight cases of chronic diseases of the eye are not so bad an offset to the 200 cases of two years ago.

A Dispensary Bill Passed.—The New York State Legislature has passed a bill for the protection of the public dispensaries against "the alleged" indigent, making wilful, false representation a misdemeanor punishable by a fine not less than $50 nor more than $250. Dispensaries are to be licensed by the State Board of Charities and are not to be established in any drug store or tenement house. A secular paper in a brief comment says, "it practically abolishes fake or quack dispensaries where poor people are badly treated." This is unjust since the profession at large never even insinuated to that effect. The fight has been against the undue multiplication and bootless competition. The treatment in the main has been beyond criticism.

Division of a Hospital Fund.—The Hospital Saturday and Sunday Association, whose receipts for this year amounted to $61,500 have distributed of this sum $50,000 among thirty-five institutions. Of this former sum, $8,200 was designated for special purposes and $3,300 was reserved for expenses. The collections were $2,500 more than last year and the number of "Free Hospital Days" was 690,841.

A Broad and Liberal Dispensary.—The New York Hospital proposes to erect a mammoth out-patient department on its property at Sixteenth Street, with facilities for treating hundreds daily. The plan is to gather in the rich and poor alike at the low price of one dollar per month. Bargain days all the year around! "Young man, go West," was Horace Greeley's answer to every solicitor for bread or work.

The Public School Medical Examiners.—The corps of Medical Examiners, recently appointed by the Health Board to examine children as a prophylactic measure against the spread of contagious diseases began their work on March 29 last. At present the system is to apply to the primary schools and the primary departments of grammar schools. The 150 examiners who are to make written reports are assigned to duty as near as possible to the schools in their immediate district. In the suburbs where the schools are small, one medical examiner is assigned to two schools, while in instances where the attendance is large two examiners are assigned to one school. As the whole matter is still experimental President Wilson states that until the official reports are presented it will be difficult to ascertain the true number of cases, but that the Board as in the past is bound to protect the public against the most insidious beginnings of any epidemic.

Under the Will of Louise A. Hondayer, the French Hospital will receive a reversionary bequest of $3,500; the St. Francis' Hospital of Trenton, $10,000; the Eye and Ear Hospital, same city, $1,000; while certain orphan asylums and homes for aged persons will obtain upward of $40,000.

Nassau Hospital of Long Island.—Land for a hospital at Garden City, Long Island, has been secured by the board of trustees of the newly chartered Nassau Hospital Association, The officers are the following: President, L. N. Lanehart, M.D., of Hempstead; Secretary, James S. Cooley, M.D., of Glen Cove; Treasurer, J. H. Bogart, M.D., of Roslyn. The following medical men were also elected members of the staff of the hospital: William H. Hoag, Manhassett; J. H. Bogart, Roslyn; John Mann, Jericho; E. D. Skinner, Mineola; James S. Cooley, Glen Cove; William H. Zabriskie, Glen Cove; George H. Fuller, Oyster Bay; Charles H. Ludlam, Hempstead; L. N. Lanehart, Hempstead; John Hutcheson, Rockville Center; F. T. DeLaus, Rockville Center; John H. B. Denton, Freeport; G. H. Hammond, Freeport; Dr. Peishing, Far Rockaway; G. A. Finsterer, Floral Park. The incorporators named in the certificate of incorporation are as follows: Drs. L. N. Lanehart, C. H. Ludham, E. D. Skinner, John Mann, G. A. Finsterer, J. H. Bogart and James S. Cooley.

Bellevue Hospital.—Work has been begun upon three

new buildings at Bellevue Hospital. They will include an erysipelas pavilion, an isolated pavilion for cases of contagious diseases and a new boiler and laundry house. The buildings will be placed on the open ground near the river. The morgue is to be moved temporarily to the center of the lawn to make way for the isolated pavilion. The structures will be of blue stone and red brick, and will be sufficiently attractive in design to relieve the bleakness of the old hospital buildings.

COUNTY MEDICAL SOCIETY.—Since April, 1895, when the law providing for the criminal prosecution of quacks was restored, the New York County Medical Society has caused the arrest of eighty-three persons for practicing illegally, and it has obtained convictions in fifty-one cases. These persons have paid $3,690 in fines, and a number of them have been sent to jail beside. The legal department of the society has a large number of cases pending. This fact alone is deterrent of much illegal practice, and not only tends to prevent the pretenders from trying to establish themselves in New York city, but also drives some of them to other localities where the duty of prosecuting offenders is not undertaken by the profession.

MEDICAL DEPARTMENT OF NEW YORK UNIVERSITY.—The trustees of the New York University have accepted the deed of the Loomis Laboratory, and at the same time the Medical School, which, since its establishment in 1841 has been under the management of a separate board of trustees, now passes under the control of the trustees of the University, together with its endowment of $100,000 and its property valued at about $300,000.

Washington.

BOARD OF HEALTH REGULATIONS.—Senator McMillan has introduced in the Senate, at the request of the Commissioners, a resolution providing that the commissioners be authorized, in making regulations under the authority conferred by Congress, to alter, amend or repeal any of the ordinances of the late board of health, which were legalized by joint resolution approved April 24, 1880, whenever in their judgment the public interest requires it.

MEDICAL ASSOCIATION OF THE DISTRICT.—At the meeting of the standing committee of the Association for organization, held on the 16th inst., the following officers were elected: Dr. Geo. N. Acker, president; Dr. R. T. Holden, secretary. The committee adjourned to meet in ten days to consider matter connected with the meeting of the AMERICAN MEDICAL ASSOCIATION in June next.

THE FOURTH TRIENNIAL MEETING OF THE CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.—The Congress will meet in Washington, D. C., on Tuesday, May 4, and under the direction of the Executive Committee, consisting of Drs. Samuel S. Adams, chairman, Washington; Louis McLane Tiffany, Baltimore; W. W. Johnston, Washington; Irving C. Rosse, Washington; S. O. Richey, Washington; J. Taber Johnson, Washington; Charles F. Bevan, Baltimore; I. E. Atkinson, Baltimore; T. Morris Murray, Washington; George M. Sternberg, surgeon-general, U. S. army; Samuel Theobald, Baltimore; William H. Howell, Baltimore; A. R. Shands, Washington; Frank Baker, Washington. The following places of meeting have been arranged for:

American Ophthalmological Society, ladies' parlor, No. 2, the Arlington.

American Otological Society, ladies' parlor, No. 1, the Arlington.

American Neurological Association, St. John's Parish Hall, 16th Street.

American Gynecological Society, lecture hall, Columbian University, corner 15th and 8th Streets.

American Dermatological Association, new reception room, the Arlington.

American Laryngological Association, Cosmos Club.

American Surgical Association, chemical laboratory, Columbian University.

American Climatological Association, post-graduate room, Columbian University.

Association of American Physicians, museum, Columbian University.

American Association of Genito-urinary Surgeons, the Shoreham.

American Orthopedic Association, examination room, Columbian University.

American Physiological Society, Prof. Lodge's room, Columbian University.

Association of American Anatomists, physical laboratory, Columbian University.

American Pediatric Society, Prof. Huntington's room, Columbian University.

The officers of the congress are: President, William H. Welch, M.D.; vice-presidents, ex-officio presidents of constituent societies; chairman of executive committee, Landon Carter Gray, M.D., New York city; treasurer, Newton M. Shaffer, M.D., New York city; secretary, William H. Carmalt, M.D., New Haven, Conn. The president of the congress, Prof. Wm. H. Welch, M.D., of Johns Hopkins University, will deliver an address Wednesday evening, May 5, at 8:15 o'clock, in the Columbia Theater. The exercises attending the unveiling of the statue of Prof. Gross, under the auspices of the Surgical Association, will be held on Wednesday, May 5, at 5 o'clock.

WASHINGTON OBSTETRICAL AND GYNECOLOGICAL SOCIETY.—At the meeting of the society held on the 2d inst., Dr. John Van Rensselaer read the paper of the evening entitled "The Need of Care in Instrumental Dilatation of the Cervix Uteri." The paper brought forth a full and instructive discussion. Dr. H. L. E. Johnson presented a number of polypi, which he had removed from the female urethra. Four with long pedicles were removed from one case. At the meeting held on the 13th inst., Dr. W. M. Sprigg read the paper of the evening entitled, "Puerperal Infection and its Prevention."

THE PUBLIC SERVICE.

Navy Changes. Changes in the Medical Corps of the U. S. Navy for week ending April 17, 1897.

Surgeon J. W. Baker, detached from the "Bennington" on relief and placed on waiting orders.

Surgeon M. H. Simons, orders to the "Columbia" revoked and placed on waiting orders.

Surgeon E. Z. Derr, orders detaching him from the "Columbia" revoked.

P. A. Surgeon E. S. Rogers, detached from New York navy yard and ordered to the marine rendezvous, New York.

Change of Address.

Auld, J. Maxwell, from 705 Jackson Boul. to 714 Monroe St., Chicago.

Barr, G. W., from 615 Hampshire St. to 1240 Park Pl., Quincy, Ill.

Blech, Gustavus, from Washington, D. C., to 119 Miami Av., Detroit, Mich.

Billmeyer, G. M., from 846 S. Wood St. to 714 W. Polk St., Chicago, Ill.

Clark, M. A., Barnesville, to 175 Cotton Av., Macon, Ga.

Ferguson, A. H., from 2950 Indiana Av. to 548 51st Boul., Chicago, Ill.

Forrester, Joseph, from W. 4th to 904 Peach St., Erie, Pa.

Fitzpatrick, G. W., from 409 Garfield Av. to Room 215 Temple Bldg., Kansas City, Mo.

Judd, C. E., from 18 Campbell Park to 93 Flournoy St., Chicago, Ill.

Montizambert F., from Toronto, Ont., to Quebec, Que.

Owsley, W. T., from Glasgow, Ky., to 206 F. St., N. W., Washington, D.C.

LETTERS RECEIVED.

Alleger, W. W., Washington, D. C.

Boehringer & Soehne, New York, N. Y.; Blakely Printing Co., The, Chicago, Ill.; Brown, I. M., New London, Wis.; Battle & Co., St. Louis, Mo.

Campbell, W. W., Atchison, Kan.; Cole, A. M., Indianapolis, Ind.

Deming, H. H., Chicago, Ill.; Draper, E. F., Advertising Agency, New York, N. Y.

Fessenden Mfg. Co,. The, Pittsburg, Pa.; Fairchild Bros. & Foster, New York, N. Y.; Fischer Chemical Importing Co., New York, N. Y.

Haggard, W. D., Jr., Nashville, Tenn.; Henrotin, Ferdinand, Chicago, Ill.; Hare (2), H. A., Philadelphia, Pa.; Hotel Walton, Philadelphia, Pa.; Hardy, M. H., Provo City, Utah; Hay, A. H. Chicago, Ill.; Houston, Jas., Swartz Creek, Mich.; Hildreth, J. L., Cambridge, Mass.

Loeb, H. W., St. Louis, Mo.; Lord & Thomas, Chicago, Ill.; Lane, L. C., San Francisco, Cal.; Leisenring, H. G., Wayne, Neb.

Milbury, F. S., Brooklyn, N. Y.; McSwain, I. A., Jackson, Tenn.; Murphy, J. J., Lima, Ohio; Macmillan Company, The, New York, N. Y.; Marmoin, W. V., Washington, D. C.; Mulford, H. K., & Co., Philadelphia, Pa.

Pepper Laboratory of Clinical Medicine, University of Pennsylvania, Philadelphia, Pa.; Platt, Henry B., New York, N. Y.; Proctor & Collier Co., Cincinnati, Ohio.

Ravogli, A., Cincinnati, Ohio; Rosse, Irving C., Washington, D. C.; Reed, R. Harvey, Columbus, Ohio.

Stearns, Frederick, & Co., Detroit, Mich.; Stout, Geo. C., Philadelphia, Pa.; Saxlehner, Andreas, New York, N. Y.

Weeks, F. E., Clarksfield, Ohio: Watkins, T. J., Chicago, Ill.; Wandless, Henry W., Dallas, Texas; Ward Brothers, Jacksonville, Ill.; Westmoreland, W. F., Atlanta, Ga.